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THE
PENNSYLVANIA MEDICAL JOURNAL

REPRESENTING

THE TRANSACTIONS OF THE MEDICAL SOCIETY
OF THE STATE OF PENNSYLVANIA

AT ITS ANNUAL SESSION HELD AT

PHILADELPHIA, SEPTEMBER, 1918

-1847-

VOLUME XLVIII
(VOLUME XXII OF THE JOURNAL)

CYRUS LEE STEVENS, A. M., M. D.
Editor

Press of
The American Medical Association
1919

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THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

Volume XXII
Number 1

Athens, Pa., October, 1918

Subscription:
$2.00 Per Year

ADDRESS

MESSAGE OF THE PRESIDENT OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA*

FREDERICK L. VAN SICKLE, M.D.
OLYPHANT, PA.

MEDICAL ACTIVITIES IN PENNSYLVANIA

The temptation is very great to devote the time allotted for the message of the president to topics as they relate to medical and surgical affairs arising from the great world war in which so many of Pennsylvania's illustrious sons are now engaged; and indeed it is very difficult in discussing medical affairs of today to refrain from speaking of the many achievements which have been the result of this great conflict.

It would be superfluous to attempt to present a discussion of the medical profession as it relates to the war, inasmuch as Dr. Arthur Dean Bevan, president of the American Medical Association, in his presidential address this year, has in a most masterful way presented the work of organized medicine, leaving but few, if any, points to be mentioned up to the present time. His presidential address will bear rereading many times, in order that we may thoroughly appreciate the position the medical profession of the United States occupies in this great conflict.

Believing, however, that inasmuch as we are the soldiers of the profession at home, many of us being unable to engage actively in the duties required by our government in the field and hospital, it will be our present purpose to discuss the various phases of medical work which relate to the affairs of the Medical Society of the State of Pennsylvania. With all our efforts however, many things of necessity must be mentioned, as they are associated with the work of medicine and surgery in military operations.

The world today and the men and women living in it are observing a panorama of experience which has never been the lot of man or woman to witness in ages past. Heroic deeds have been mentioned in ancient history which have carried a glamour the envy of modern men and women, but modern history will record the most brilliant heroic deeds of any era in the world's history. Bereavement and sorrow pervade the world and with all a feeling of satisfaction and confidence that right will prevail.

These go hand in hand with this great epoch and it would seem that grief and sorrow were not alone the result of war, but that the heavy hand of Providence has been laid upon our own organization during the past year. It therefore behooves us to pause for a moment to speak a word in memory of our late lamented, worthy president, Dr. Samuel G. Dixon, whose demise came so untimely in the work of this society. It is not my purpose to pronounce a euology to the memory of Dr. Dixon, because his life and his work are sufficiently prominent for all members of our profession and the public in general to give a better and more satisfactory euology than any I can conceive.

For the first time in the history of the Medical Society of the State of Pennsylvania, so far as I can learn, has it been bereaved by the loss of a president during his active term of office, and in the passing of Dr. Dixon his life work can well fulfil the quotation:

> "Lives of great men all remind us
> We can make our lives sublime,
> And departing leave behind us
> Footprints on the sands of time."

If ever there lived in the medical profession of this state a man who left a greater imprint upon medical affairs, as well as civic affairs of this commonwealth, I am not familiar with his history, and I believe that years to come will show the efforts put forth by Dr. Dixon in his work as commissioner of health of the State of Pennsylvania as being far above that which the average man could have accomplished. Beginning as he did, with many obstacles to contend with, he built an organization the rival of which is found in no state of our Union and, while I might elaborate to some length on this work, I wish only to express one hope, which is that this great organization, for the benefit of the health of the public of Pennsylvania, shall not be disrupted and that whoever the successors of Dr. Dixon, in the Department of Health of Pennsylvania, may be, they may be endowed with such stability of character, such wiseness of discernment and such strength of their convictions, that the work established by Dr. Dixon may not be altered, perverted or disorganized.

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*Delivered at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

It was stated when Dr. Dixon was elected president of the Medical Society of the State of Pennsylvania, he remarked that, with all the honors which had been previously conferred upon him, he had received none greater and none which he considered as satisfactory as being elevated to the highest honor that the Medical Society of the State of Pennsylvania could confer on him.

I wish in my feeble way to echo the very sentiment which Dr. Dixon so nicely expressed, and with so few of the qualifications which he possessed and so few of the honors which he received at the hands of scientific and literary societies, I would like to express my grateful appreciation on being elected a successor of so great a man.

OUR DUTY AS A SOCIETY

The past history of this organization has read into it the lives of some of America's most brilliant medical men and the work which has been accomplished in this state in medical affairs, from the cradle of medical education in the City of Brotherly Love to the farthest borders of the Smoky City, needs but little repetition. The present confronts us, the future must receive our attention and this morning let us pause for a moment, look about us for our present needs and duties and then plan for a wise future for organized medicine of this state.

We have today a situation very different from that which existed a little over a year ago. The call to the colors of the medical men of this state has been nobly answered and in so doing it has called heavily on many of our cities and towns for doctors. The work which is to be done today and possibly for some years to come must be done by the Home Guard, by the men not on the firing line, who must with renewed energy, greater hope and stronger effort carry on the work which is ours to do.

Our first duty of the present is completely to conform to the requests of the United States Government and organize the entire medical profession into the two classes required. First, those who are in the enlistment age, physically fit and for the various reasons set forth by the National Council of Medical Defense should, where possible, offer their services for army, navy or public health service. Second, those who are without the limitations of the Medical Reserve Corps and come into the zone of the requirements for the Volunteer Medical Service Corps, should enlist in that service.

I would say to the members of the medical profession of the state, both men and women, that in this affair there is no *neutral* ground. We should be in either one or the other organization, or not be in the medical profession.

Time will not permit of elaboration of this problem. It is a personal duty of each of you here today to *get in line,* and to those who are not here, to heed this warning — *get in line.* Let no word of comparison ever be spoken in regard to the conduct of the medical profession of this state, as might occur if conscription became necessary.

WAR COMMISSION

It would be highly desirable to create a commission in this society, whose business it would be to conduct such investigations and carry on a correlation of work with the War Department as may be necessary, so that during and after the war the various problems which come up in relation to the members of the medical profession who are or who have been in the service, may receive prompt and efficient attention.

It is not the desire to increase committees or commissions, but the war of necessity creates conditions not previously existing. There might arise many questions in regard to practice in every city, town and hamlet, wherein doctors have left to join the flag, who on returning may find conditions which will need adjusting. Associate committees in the county societies should be created to complete an organization to facilitate this work.

THE PUBLIC DURING THE WAR

A propaganda of education will become necessary in the relations of the medical profession at home during the war and the public. The continued call for medical men in the United States service will deplete many localities, so that the former ratio of doctors to the 1,000 inhabitants will be greatly changed. The public should therefore become acquainted with this limited medical service and so aid in this rearrangement as not to create a hardship for themselves, as well as allow the profession to give adequate service.

SOCIAL INSURANCE

Social insurance as it relates to the present Workmen's Compensation Law is a subject that will require the aid of every thoughtful worker in this field. Suggestions as to amendments or alterations for the benefit of the profession, which are sane and workable should be submitted to the committee having these matters in charge.

In this connection, I desire to call the attention of the county societies to the necessity of preparing fee bills as they relate to the treatment of injuries coming under the Workmen's Compensation Law. These fee bills should be unified or a composite bill drawn, which may go before the bureau having the administration of the law in charge, so that when amendments are offered proper fees may be included.

In connection with the operation of the Workmen's Compensation Law, it is a matter of pride as well as commendation of the profession when we can say that so far as we have been informed no case of alleged malpractice, arising from injuries coming under the Compensation Law, has come to the notice of the councilors having in charge the Medical Defense Fund.

Social insurance in sickness is not a dead issue. While it may not be brought forward for final action, the coming year in this state, the time is not far distant when it will be an issue for the medical practitioner to contend with, after having found favor in the eyes of the law makers; hence we must not sleep or lose sight of the fact that our future in medicine leads along the path we make ourselves. If that path be of other's making we need only to blame ourselves for lack of self protection.

Personally I have no plan of action in the social insurance problem as it relates to sickness to offer. The plans used in European countries prior to the war may offer an outline from which to deduce methods that might apply in America. But I am impressed with the fact that more original methods must be adopted, here in our own country, rather than accept those having been used in countries where conditions are not such as we have here. It must, from the nature of our methods in conducting business, be upon different lines and arranged to comply with our idea of living so as to be truly American. It will require the most wise counsel on the part of the medical men who have studied the subject before the profession of medicine should accept sickness insurance as a part of the every-day method of the practice of medicine.

Closely allied to the work of social insurance is the question of annual or semi-annual physical examination of industrial workers, either on the part of the state, the municipality or the employer.

As a profession, we find in our daily work, as examiners in the draft and enlistment service, an exceedingly large number of persons who have physical defects, a great percentage of which are remediable. Many employers of labor prior to this time have appreciated this fact and in some instances, especially since the Workmen's Compensation Laws are being operated, require physical examination of employees.

In a recent recommendation by Samuel Gompers, president of the Federation of Labor, in a communication to Secretary of Labor Wilson, in reference to medical examination of workers in the government's labor recruiting agencies, he recommends physical examination and states it will greatly augment and help to maintain the health of our industrial army.

When the lay public appreciate the necessity of recommending examinations, in order to keep the physical condition of the worker fit, it is high time that we of the medical profession should enlist our cooperation in making this endeavor more emphatic and more successful, instead of spasmodic, irregular and inefficient medical examinations.

We should conform our work to the recommendation as above, wherein standard cards for physical examinations are prepared and thereby in so doing instruct the public and assist the departments of health in their great efforts to maintain a high standard of public health and efficiency.

Such measures as this society shall see fit to adopt should be submitted to the departments of health and labor and industry, so that we may acquaint the profession with our desire to enlist our services in this beneficial movement.

BUSINESS SIDE OF THE PROFESSION

A greater business acumen must obtain in the medical profession. We need to be taught the trick of other trades and, while it is well said "there are tricks in all trades," we of our profession fail to appreciate the business side as we should. This is said not in depreciation of the fact that scientific duties are in no wise to be neglected or minimized.

It should be the endeavor of the members of of the medical profession to increase their qualifications both in the practice of medicine as well as their attention to the business side, the latter having so long been a byword of the laity as to our laxness of business methods. It is well known that the better financial rating a business man has the greater the respect of his community. This should apply equally as well to the medical profession and would give a greater opportunity for medical men to improve their scientific attainments.

All in the military service are not colonels, majors or captains, as the greater number are in the ranks; so, in the civic army of the profession, the great majority are in general practice. Therefore whatever aid organized medicine can be to promote their interests, either scientifically or financially, the same should be rendered.

We should accept the criticisms as deduced by the public that medical men are notoriously poor business men; they keep books and accounts badly. Were the same methods to be used in other business men's affairs, Bradstreet's and Duns' agencies would record a greater number of failures than they do. We should become better business men.

Pennsylvania, through the efforts of medical men as commissioners in the Department of Health of the state, directors in the bureaus of health in Philadelphia and Pittsburgh, as well as all other cities of the state, have had a marked beneficial influence, which to my mind has not been properly recognized on the part of the lay public. It would seem that the public should be better informed as to the part medical men take in this work and, while to a certain extent politics play a part, yet on the whole the medical men are the least influenced, I believe, of any when the duties of their office are concerned. We can point with pride therefore to the municipal affairs of the state of Pennsylvania in their relation to the health and well-being of the public.

Closely associated with every matter pertaining to the practice of medicine in the state is the Bureau of Medical Education and Licensure, and it is hardly fair that for years we have spoken but little of the great work which that bureau has accomplished, is accomplishing and which the future will show has laid the foundation for a permanent medical fraternity, so far above the standard which the public would create for us were it in their hands.

Among the many accomplishments of the Bureau of Medical Education and Licensure we might mention the early work of this bureau in its reorganization of the method of examining applicants to practice medicine in this commonwealth and the added requirements of applicants, especially the oral bedside examination, which was entirely a new move, as part of the requisite work of the applicant in this country.

The control of cults in the practice of medicine was regulated through a careful study of the requirements necessary and the cementing of united action of medical educators in the state in a common interest, so that at the present time it is necessary for anyone practicing the healing art to obtain a state certificate, without which prosecution for illegal practice would ensue.

The added prerequisite year of intern service in hospitals was a distinct step in advance, and later the inspection of hospitals with standardization and inducing the hospitals to bring their equipment up to the point it made for efficiency.

Establishment of reciprocity with thirty-one sister states, having similar standards of requirements, is a laudable improvement over former conditions and, lastly, the war measures, taking into consideration the control of venereal diseases and inducing hospitals to care for this class of patients. These and many other advanced movements on the part of the bureau have rendered it a most useful branch of the state's service.

From an impartial viewpoint, therefore, we believe that Pennsylvania has a bureau which is wielding a vast and nation-wide influence for the greatest good to the greatest number.

MEDICAL EDUCATION

The work of the American Medical Association, through the Council on Medical Education, has rendered a great service to organized medicine, and I wish again to refer to President's Bevan's address relating to the supply of medical men. Pennsylvania has been a reservoir of supply, well in the front ranks of the states, and it would seem eminently wise were the colleges of this state to adopt the plan therein recommended, beginning with the present year, and have a continuous session, so that graduates may receive their diplomas in a three-year period. It will be possible if this plan is adopted in other states as well, wherein the needed supply of practitioners of medicine will be obtained and hospitals may obtain adequate intern service, which all of the profession are aware has been sadly needed for the past few years; and in so doing it will offer an inducement to young men who are not in military service to accept the medical profession as their life work and we all know, at least we all feel, that the practice of medicine in the years to come will be a better and more pleasing occupation than it has previously been.

MEDICAL JOURNAL

In reviewing the work of the various states in the Union having well-conducted medical organizations, we note that the official organ of the state society fills a very important place in the work of organized medicine. It is the mouth-piece through which medical as well as social opinions may be freely expressed and the medium through which news items may reach the entire profession. This society has reason to be proud of the work accomplished by the editor and colaborers in the issue of the journal of the Medical Society of the State of Pennsylvania, as it takes foremost rank with those of other states.

I would bespeak during these strenuous war times a greater assistance to the up-building of the JOURNAL, aiding in every possible way the high standard which it has achieved and making it of far greater usefulness to every member of the profession.

Were it possible to enlist in the membership of the county societies every qualified medical practitioner in the state, it would be a very wise step, for all would then receive the JOURNAL and be familiar with all matters pertaining to legislation, scientific discoveries, public health measures, social insurance, etc.; in fact, all information which should come to the knowledge of medical men would arrive at its proper destination and assist in cementing this organization into one of the strongest, if not the strongest, in the United States. I would bespeak a most hearty support for the JOURNAL.

Hardly less important are the issues of the county societies in their bulletins, reporters, etc., and the inauguration of these means of publication was a distinct step in the advance toward increasing the efficiency of the county societies. These are the official organs of the county societies. The better the issue and the more interesting its contents, the greater number of readers it will have; and the greater number it reaches in the community of medical men the better will that society be.

It should be the most earnest endeavor on the part of each component society in the state to increase the efficiency of its publication, so that the county, the state and the American Medical Association may be the means of constructing the greatest medical fraternity in existence.

IRREGULAR PRACTICE DURING THE WAR

The present disturbed condition of life, due to the war, should not affect the work of medical men who are to remain and attend to the practice of medicine in the state in such a way as to allow the public to criticize and offer an opportunity for charlatans, quacks, patent medicine venders, sects and cults to establish themselves in the good graces of the public, in the meantime thereby belittling the earnest efforts of organized medicine to furnish honest scientific relief for human ills.

We observe that there is a greater activity at the present time on the part of irregulars and those who prey on the sufferings of mankind to gain a foothold while our attention is turned toward the nation's needs for medical service in this great war. There should be a keener watch on the part of committees in the state and county societies having the suppression of illegitimate practitioners in hand, so that the communities may not suffer from the inroads of the vulture who would gather the laborer's hard-earned dollars, giving in return worse than nothing, leaving a bad taste in relation to medical affairs of the state.

DEPARTMENTS OF THE SOCIETY

We should not be unmindful of the departments created in this society which in the past have accomplished a great amount of good and the various funds established should not be allowed to lapse in volume of finance to the detriment of the interest which the funds are to safeguard.

The Medical Defense Fund has been the means of a great amount of good, probably greater than the average member of the society is aware. It has been a check to prevent would-be ambulance chasers, vicious-minded people and others to assume the medical profession to be legal prey. The moral as well as financial assistance rendered through this department is sufficiently important to receive the encouragement, support and cooperation on the part of the members, as well as care in watching over professional conduct to prevent the opportunity arising wherein its provisions may be required.

The Medical Benevolence Fund must be kept to the standard where it can offer relief when needed and not be allowed to fall short of finances when distressed members need its assistance.

A better scheme to safeguard the interests of the profession in its relation to legislative measures affecting the profession should be adopted in the near future, and, while we must congratulate the zealous efforts on the part of those who have performed the duties of the Committee on Public Policy and Legislation in the past and realize the immense value they have been to the medical fraternity, yet we must also realize that each legislative session offers the opportunity for measures to be presented, many of which are not always in the best interests of the medical profession.

Whether we accept the scheme to create the office of executive secretary or place greater stress upon the need of effort on the part of the Committee on Public Policy and Legislation, or whatever plan seems best, it is our official desire to safeguard the standing of our profession in the state and zealously to seek the promotion of laws which shall be in its interests and not to the detriment of the public, that we may create a closer relationship and better understanding between the medical and legal fraternities, so that antagonism may be eliminated and a greater cooperation in every field of work established, whereby the legal and medical professions may be associated.

In connection with the routine work of this society we should be reminded of the value to the organization of the Commercial Exhibit. The manager, through The Journal, has called attention to the fact that the exhibits are not only of financial advantage to the society, but of scientific interest to the members in attendance at the annual session. It is quite possible that many do not attach the importance to the exhibit they should. But were we better business men, the extra assessment necessary on each of us, did we not have the exhibit, would not be disturbing. As it is we should little like a new arrangement to omit this part of our session. Can we not then aid the manager by making the exhibitors appreciate their value to the society.

NECESSITY OF ELIMINATING DRINK

For years the medical profession has in many ways sidestepped the problem of the use of alcohol as a beverage by the public and has often taken refuge behind the mere discussion of the physiological effects of alcohol in disease. The day for such discussion has passed and the medical profession has no refuge, no camouflage, no trench in which to hide in order to escape taking an absolute stand in this great issue. Fanatical oratory has done more harm toward eliminating the evil of strong drink than good and while we would not for a moment advocate martialing the influence of the medical profession to stand with prohibition and against the use of alcohol as a beverage merely to go along with the majority, but would rather boldly, entirely and rightly accept the responsibility which the organized medical profession of Pennsylvania must accept.

We can have no neutral ground in this great issue. The time has long since passed when we should demand of the Federal and state governments the enactment of laws necessary to eliminate the manufacture and sale of alcoholic beverages; not merely as a war measure, but for all the other known reasons. Pennsylvania must *get in line.*

KEYNOTE OF THE SESSION

The keynote of this session should be to disturb as little as possible well-organized plans as they are associated with the work of the profession and not launch new or untried theories which might detract from the great problem the people of this country have in hand. Few innovations have ever succeeded during a time when every effort is centered on the accomplishment of a great issue; hence, while it is well for us to perform the duties necessary to the proper carrying out of the work of the Medical Society of the State of Pennsylvania at this session, plan the duties for the coming year in a judicious manner, it would be eminently unwise were we seriously to consider anything that has not a bearing, directly or indirectly, on the vital needs of this nation.

The wheels of our government have gradually increased their momentum since the entrance of the United States in the war until at present they revolve with a strong, steady and powerful velocity, carrying men, money and material over seas, a mighty flood, which each day, makes that *would-be* great and world-controlling autocracy of Germany feel the impact of the Yankee. Each day sees some new point gained in battle; each day the dark cloud grows thinner; each day points the way toward a glorious victory and a possibility for a decent Democracy to spring to life in the hearts and minds of what are left of decent people in the German and Austrian Empires. These things that are now being wrought are to bring a great future for us and our allied countries, who are fighting for freedom from the mailed fist, from barbarism the like of which the world has never seen. We as a medical profession play a part, a no small part, in this great struggle. Whether we are in uniform or civilian dress, we have a great duty to do each day and hour. The medical profession of America has sent its message to the medical profession of Germany. The right hand of fellowship, of science and of American medicine shall be withheld. Organized medicine of Pennsylvania votes aye to a man to uphold the standards set by our national organization; votes aye to do whatever duties may be imposed upon it. We have a task for the present and the future which every medical man or woman in the state must feel, must realize, forgetting personal sacrifice and inconvenience.

Our state expects much of us and we should not fail. Our duty is clear, to perform every demand required of us as a medical fraternity. We have traditions which we shall not belie or forget and the future history of medicine of this state shall record the noble part our profession has achieved on land and sea. We at home must not fail. We, too, have a great part to play. Take up the torch and by our daily work show that spirit of loyalty which will bring victory by our support of every movement of our government, by our professional work, by our speech and conduct. May we be foremost in spreading the message each day, so that every man, woman and child in this great commonwealth may devote all energy, time and talent to the accomplishment of the one great aim of our government; and when we have fulfilled this mission and by this mighty effort of the people, by the people and for the people, we shall win the war.

ORIGINAL ARTICLES

REPORT OF TWO CASES *

PRESENTING CASES

GEORGE B. JOBSON, M.D.
FRANKLIN

This first case is one of hydrocephalus. The patient is a boy about 10 years of age, and has a twin brother. He came to me when he was 3 years of age. At that time his vision was failing slightly. I examined him, and the hydrocephalic condition was not at all marked; in fact, it was almost entirely absent. Very prominent bilateral optic neuritis showed and I suspected some intracranial trouble. To verify this I sent him to Dr. Heckel, who examined him and had a roentgenogram made.

The majority of cases of optic neuritis are due to brain disease and, according to the classification of von Graefe, we have the congestive condition of the optic disk and the descending optic neuritis. At the time I saw this boy there was a congestive state only. When you examine him you will see that the optic nerves are completely atrophied. The roentgen ray showed dropsy of the right ventricle, with very prominent convolutions and partial absorption of the inner plate of the skull. I think it is Shipman's theory that the intercranial pressure forces the cerebrospinal fluid not only into the spinal canal, but into the intervaginal sheath of the optic nerve, and, by compressing the lymph spaces in the nerve and the vein, we have increase in pressure which produces the congestive condition of the optic disk.

This is not a true inflammation, as is demonstrated by a relief of the pressure by spinal puncture. Those who do ear work and who have had cases of lateral sinus thrombosis, know that we frequently have optic neuritis, or optic edema, and that by relieving the lateral sinus thrombotic condition, very frequently and in a short time the congestion of the optic disk clears up.

We advised decompression at the time that Dr. Heckel and I saw the boy. Unfortunately this was not done. The father was afraid of the operation. Dr. Heckel has some statistics with reference to this, and I would like to hear from him.

This second case is one of hemianopia and the patient is of the opinion that her condition resulted from the administration of hyoscin, which was given at a sanitarium, preliminary to having her tonsils removed under local anesthesia. The following history has been received from the sanitarium:

> Miss G. D., by occupation a nurse, aged 45, weight 163, healthy in appearance. Had pneumonia twice in childhood, and the usual diseases of children. She was anemic as a young girl. Complete hysterectomy was performed five years ago for fibrosis. She had tonsillitis two years ago. Blood and urine normal. Teeth normal. Wassermann test was negative. Infected tonsils. Admitted on account of lumbar pain. Diagnosis: Toxic neurosis—sacroiliac strain.
>
> After tonsillectomy under local anesthesia, patient complained of severe headaches, followed by hallucinations; difficulty in breathing and cyanosis. Râles in chest shifted to dependent portion of lungs. In forty-eight hours right-sided hemianopia developed. Patient's condition, which was quite serious, gradually cleared up and was normal at time of discharge, except for hemianopia.
>
> Eye test revealed right homonymous hemianopsia, eye reflex normal, eye movements normal, color perception normal, patient reads print when turning head at slight angle.

As I referred the patient to Dr. Heckel for consultation, I wish he would furnish the data which he has of the case.

DISCUSSION

Dr. Edward B. Heckel, Pittsburgh: In October, 1912, the first patient showed simple optic atrophy. We had the roentgenogram made because of the atrophy and it showed very beautifully the result of a pressure atrophy. You can see practically every convolution of the brain as a result of this pressure atrophy. At that time the circumference of the head was 19⅜ inches. Not knowing what my measurements were some one else measured it a few moments ago and the circumference was 19¾, an increase of ⅜ inch. The measurement taken over the vertex of the skull from the horizontal line that was measured at that time was 8 inches; today it is 9½ inches, so there has been an increase of 1½ inches. I also had a picture made at that time of this little chap with his twin brother. Externally the only difference that can be noticed is that this patient is considerably smaller and less developed than the other one. The circumference of the brother's skull was 21⅛ inches. That was in October, 1912, five years ago, as against 19⅜ inches of his brother. The prognosis, of course, at that time was exceedingly grave. The case has gone on without any operative treatment and has resulted as we supposed it would.

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* Presented before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Pittsburgh Session, Sept. 25, 1917.

In a letter to Dr. Jobson at the time, I said there was practically only one thing that could be the cause in this condition, namely, internal hydrocephalus. There is nothing else that will give that equal pressure except a fluid, and produce this absorption which was so practically complete. Speaking from a mechanical standpoint, nothing but a fluid would do that; consequently nothing but an internal hydrocephalus would do it. At that time we suggested tapping the ventricles and then doing a cranial plastic operation, which was refused.

In the second case the supposition was that there had been an embolus which had lodged in the fundus. I believe there is no lesion.

Dr. Adolph Krebs, Pittsburgh: From going over the history very briefly I understand the patient had the tonsils removed because it was suspected that the infection from the tonsils was causing an attack of lumbago. She stated that, after the use of this method of anesthesia she did not recover for twelve hours and for three days subsequently was not very conscious. There was also considerable trouble with the throat, which remained sore for a long time. There was albumin in the urine for several days afterward. Patient does not know whether or not she had fever.

The Patient: I had pneumonia.

Dr. Krebs: It seems to me wiser to blame the infection from the tonsil, rather than the scopolamin-morphin anesthesia.

Dr. Harvey M. Becker, Sunbury: With an idea of attempting to estimate the amount of infection that was likely to result following the tonsil operative work, and with an attempt to determine between what strata of tissue the infection would be likely to occur, it would be interesting to know more particulars regarding the operation on the tonsils. I believe that no surface infections are of sufficient severity to consider in so far as systemic derangement of any type would go, but infection under the aponeurosis might well be considered. Did the patient have septic pneumonia, inspiration pneumonia, or did she have such as might come from a pneumococcus of one type or another? It is a large question, and I do not see how we can arrive at any definite conclusion unless we sift down to the original cause of the underlying infection, granting that infection is the cause of the ocular condition.

Dr. Jobson: This lady is a nurse and she says she had hypostatic pneumonia.

THE CESAREAN SECTION IN ECLAMPSIA *

CHARLES G. STRICKLAND, M.D. F.A.C.S.
Obstetrician to Hamot Hospital
ERIE

It is obvious that eclampsia is a toxemia. It is still more obvious that while we do not know the type of the poisoning substances nor their exact point of origin, the fundamental cause is pregnancy. It is about time for us to admit that we have sought over long for specific remedies. Better had we spent our time in painstaking and unremitting care of the patient ere the toxemia had developed. I am fully satisfied that when we have taught the public to demand the class of obstetric attention to which every pregnant woman is entitled, we shall hear much less of eclampsia. Here lies a field of opportunity well worthy of our effort.

But, even with the best of care, there always will be women whose metabolism is not equal to the added strain of pregnancy and who in spite of every precaution will go on to convulsions. What can we do to save these and their children?

The recognized treatment of eclampsia has wandered to and fro. A generation ago it was taught that the expectant and sedative line was the one to follow. You and I have practiced rapid delivery and active elimination. And now some of our conservative friends would have us believe that "father was right" after all. I, for one, cannot see it.

Why should we further narcotize an individual whose circulation is already overwhelmed? Is it not analogous to treating food poisoning with opium rather than with castor oil? I think most of you will still agree that it is wise to deliver the child as rapidly as is consistent with safety, once convulsive seizures have started. Such has been my custom, and I have no cause to regret it.

Conservative measures have their place. In multipara the rupture of the membranes followed by the introduction into the cervix of a hydrostatic dilator together with forced elimination and a possible phlebotomy are often all that is required. Or if the cervix is undilated and the case violent in its onset the bags may be rejected as too slow and a vaginal cesarean done.

In primipara the problem is more complicated. If the cervix is largely obliterated and

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* Prepared for the Section on Surgery of the Medical Society of the State of Pennsylvania, Pittsburgh Session, Sept. 27, 1917.

dilatation well under way it may be possible to use a bag to be followed later by forceps. But if the cervix is unshortened and undilated, as it so frequently is when the convulsions start, then bags and bougies are too slow. Instrumental or manual divulsion of the cervix is attended by too great a mortality and morbidity. Vaginal cesarean in a primipara is not easy of performance. It is in this type of case that I feel that the abdominal cesarean is the method of choice, and for the following reasons: (1) It does away at once with the causal condition; (2) granted an undilated cervix it is the safest and cleanest method of rapid delivery; (3) through the operative bleeding, which is free, it accomplishes the purpose of a phlebotomy; (4) it leaves the pelvic floor intact.

The operation is relatively easy, yet I have not always found it so easy as some would have us believe. It can be completed in from thirty to forty-five minutes, which is considerably less time than I need for a delivery by manual dilatation and version. Taking less time a cesarean naturally requires less anesthetic; in a clean-cut surgical procedure there is of course less trauma than there is in an accouchement forcé, and the bleeding is better under control.

These cases bear cesarean well, particularly if subjected to operation immediately after the first convulsion, and naturally this is the time that the best results can be expected. If vaginal examinations have been few and made under strict asepsis the mortality directly dependent on the operation should be low. High mortality comes from late operations and from infections received prior to operative interference. No one will take issue with the statement that a cesarean gives the child its best chance of life.

The objection will doubtless be made that having subjected a woman to a cesarean we have doomed her to this type of delivery in all future pregnancies. This I admit, but my mortality has been so low that I have felt repaid for the responsibility thus assumed.

Ether is the anesthetic of choice. Chloroform is contraindicated because of its added strain on the heart muscle, and because of the similarity of the pathology of chloroform poisoning to that of eclampsia. Local anesthesia neither gives the desired relaxation nor the assurance of freedom from convulsive seizure during operation.

Case 1.—J. B., aged 21, a primipara at term. Patient reached hospital a few hours after first convulsion. She was comatose on admission and not in labor. The blood pressure was 200. The cervix was unobliterated and undilated. Albumin was present in the urine in large amounts. She had her second convulsion on the way to operating room. She was delivered by a high cesarean of a live, full-term child within four hours of the first convulsion. Mother and child had an uneventful convalescence.

Case 2.—K. O., aged 18, a primipara at term. Patient had a convulsion at six o'clock one morning and was admitted to the hospital three hours later. At this time she was relatively bright, although the blood pressure was 190 and a marked albuminuria was present. The cervix was unobliterated and undilated and the patient was not in labor. She was put on active elimination but in spite of this had five more convulsions in the next four hours. At this time I delivered her by high cesarean of a living, full-term child. The mother's convalescence was marred by lobar pneumonia and a breast abscess, but both patients were discharged well, at the end of six weeks.

Case 3.—A. S., aged 35, a multipara two months short of term. She had toxic symptoms for a month and during that time had been under constant observation and treatment. In spite of this she had a convulsion. The cervix was unshortened but admitted one finger. Her blood pressure was 200. She was delivered by high cesarean within two hours of her first convulsion of a living child. Mother and babe had a normal convalescence.

Case 4.—B. S., aged 22, a primipara at term. Patient had her first convulsion at 11 p. m.; had two more convulsions within the hour. The urine showed albumin and the blood pressure was 195. The cervix was unshortened, but admitted one finger. The patient was not in labor. A high cesarean was done within an hour of the first convulsion and a living child delivered. This patient had a stormy convalescence, but was finally discharged with her baby alive and well.

Case 5.—M. C. G., aged 35, a primipara. Patient had her first convulsion when six months pregnant. Her blood pressure was 200 and there was a heavy albuminuria. She was not in labor and there was no cervical dilatation nor obliteration. A high cesarean was done within two hours of the first convulsion and a premature child of 2½ pounds was delivered. This child lived eight hours. The mother had one convulsion after delivery and then went on to a normal convalescence.

Case 6.—S. M., aged 28, a primipara at term. She had ten convulsions previous to admission to the hospital. She was not in labor. The cervix showed no shortening and no dilatation. Her blood pressure was 180 and the urine boiled solid. She was delivered by high cesarean of a live child nineteen hours after her first convulsion. She had six more convulsions in the twelve hours following delivery and then went on to a normal recovery. The child was discharged alive and well.

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A REPORT ON THE USE OF DIXON'S FLUID (TUBERCULIN) IN THE PENNSYLVANIA STATE TUBERCULOSIS DISPENSARIES

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Many attempts have been made to produce an artificial immunity against tuberculosis. Careful study of this disease shows that an attempt is made on the part of nature to produce an acquired immunity; this is found in the fact that from 60 to 90 per cent. of the bodies of persons dead from all other causes show the healed lesions of tuberculosis.

In fact, artificial immunity may be said to be the imitation of nature's own methods and is to be attempted in practice in those showing the presence of active disease. The method to accomplish this is now known to be the hypodermic injection of certain products of the tubercle bacillus. The same principle underlies the methods in use to prevent smallpox and typhoid fever. The products of the tubercle bacillus used to secure this artificial immunity are generally known as tuberculins.

In the *Medical News* of October 19, 1889, attention was called by Samuel G. Dixon to a morphological condition of the tubercle bacillus which had never previously been observed. This change consisted of modifications of the organisms which suggested the presence of involution forms. These forms represented a difference in the degree of virulence which led to the subcutaneous injection of these presumably somewhat devitalized organisms into tuberculous animals with the result of producing different degrees of immunity. Having succeeded in cultivating tubercle bacilli in a number of tubes to a stage at which few or no ordinary rod form bacilli could be microscopically found in the cultures, inoculation into guinea-pigs and rabbits of these atypical and non-virulent forms of bacilli resulted in a short febrile stage with an enlargement of the lymphatic glands in the neighborhood of the point of injection. This condition, however, soon passed away and the animals recovered, and afterwards exhibited a high degree of resistance to the effects of virulent tubercle bacilli. On further experimentation it was shown that by treating a mass of unmodified tubercle bacilli with ether and abstracting with a salt solution, a product was obtained that, when injected into the animal economy, changed the condition of the tissue cells and thereby prevented the growth of the tubercle bacilli when such were introduced into the body. The result of this investigation was first published in the *Medical News* of January 17, 1891, page 87. This work was continued until with improved technic two methods were finally adopted, or rather two products were evolved.

These two products (T. B. E. and T. B. S.) made in accordance with the original preparation, but modified and improved in conformity with improved technic and advanced knowledge, are in use through the department's agencies at the present time: Tubercle Bacillus Extract (T. B. E.) and Suspension of Dead Tubercle Bacillus (T. B. S.). These products in the Pennsylvania Department of Health work are used for therapeutic purposes only. The Tubercle Bacillus Extract (T. B. E.) is prepared from living organisms, an equal quantity, by weight, of tubercle bacilli of the bovine and human type being used. There are twenty dilutions. Number 1 dilution contains the extract from 1 mg. (0.001 gm.) of prepared tubercle bacilli, while dilution No. 2 contains the extract from 190 mg. (0.19 gm.) of prepared tubercle bacilli. It is suggested that, in ordinary cases, the injection of each dilution be repeated, at least five times before changing to the next number or the next stronger dilution.

The suspension of dead tubercle bacilli (T. B. S.) is a suspension in physiological salt solution of dead tubercle bacilli which have been de-waxed by prolonged treatment with alcohol and ether. An equal quantity, by weight, of tubercle bacilli of the human and bovine is used. The dilutions vary from Nos. 1 to 16, dilution No. 1 containing one-thousandth of a milligram (0.000001 gm.) of de-waxed tubercle bacilli, and dilution No. 16 containing fifteen one-hundredths of a milligram (0.00015 gm.) of dead tubercle bacilli. If it is desired to give a larger dose than dilution No. 16, it is advisable to make two injections in different regions; one of the highest dilution and another with the dilution corresponding to the remainder of the dose desired. This method prevents the depositing of a large number of dead tubercle bacilli at one point. The precautions used in preparing these products render any contamination impossible, but as an additional safeguard, one-half per cent. of carbolic acid is added to prevent subsequent infection. Every sample of the products is controlled by animal experiments, and tuberculosis has never resulted from their use. These products are toxic in that an increase of temperature will follow their introduction into a tuberculous individual. No such rise of temperature will follow an injection in a healthy individual. Small animals will stand repeated injections of 0.000001 gm. of the organisms which have been treated with alcohol and ether, or a quantity of the salt solution extract of the living bacilli which equals the extraction of 0.001 gm. Large doses of either preparation will cause a rapid loss of weight and even death in a tuberculous guinea-pig.

Diagnostic Use.—As a diagnostic agent tuberculin is specific in action. A positive reaction as shown by an increase in temperature and certain other phenomena occurring within six to twelve hours indicate the presence of tuberculosis. It does not distinguish with certainty, however, between an active tuberculous process and one which is latent or practically cured. The chief use to which Koch's original tuberculin has been put is as an aid to diagnosis in human beings and cattle. Inasmuch as adults have, in the majority of cases, experienced tuberculosis, a positive reaction gives no positive evidence of an active lesion unless focal symptoms are produced by the subcutaneous injection. However, in adults as in children a positive reaction may mean a latent as well as a healed or an inactive lesion. Moro modified this method by making a 50 per cent. ointment of tuberculin in lanolin. A positive reaction on the skin surface after rubbing this ointment into the skin without scarification indicates a tuberculous lesion. Wolff-Eisner and soon after Calmette proposed its use in the eye; this constitutes the so-called conjunctival test and is a finer but more irritating means of diagnosis than the use of an ointment on the skin. Von Pirquet devised a more delicate skin test by using 50 per cent. (changed later to 25 per cent.) tuberculin in normal salt solution. He found that this reaction was especially serviceable in the diagnosis of tuberculosis in children.

Therapeutic Use.—The early therapeutic use of tuberculin with an over-estimation of its possibilities led to disappointment because of its use in hopeless cases and in unsuitable dosage. The consequence was an almost general neglect in its use. Trudeau's work led to a revival of its use with a thorough understanding of its limitations.

The aim of all investigators has been to obtain a preparation for the production of artificial immunity to the disease and, for this purpose, it is necessary to have a product with a low degree of toxicity, but still containing the substances necessary to produce the immunization. Chemical analysis of masses of tubercle bacilli has failed to explain the exact nature of the toxin. However, it has been shown that the active substance is probably a proteid and that after certain characteristic methods of preparation (according to the effects produced), its action is a guide in both preparation and dosage. Active or artificial immunization with these products increases rather than neutralizes the toxin of the person suffering with the disease; hence the necessity for a preparation of low toxicity, of small dosage and of long periods of treatment.

The importance of time as a factor in this treatment has been demonstrated by the results of the department's work; immunity is produced very slowly and is obtained only in certain carefully selected types of patients. These facts have been recently emphasized by Mollers, who states that a single course of treatment is not enough and, in many cases, years of repeated courses may be necessary, in the meantime keeping patients under supervision.

The best results in cell immunization are to be expected in patients who have a small amount of tissue involvement and in which the body cells have not become saturated with the toxin.

The physician's judgment should depend upon the patient's general condition: his strength, weight, appetite, cough, condition of circulation, record of temperature and amount of sleep. When these are good, the patient may be regarded as a favorable subject and a moderate reaction may be tolerated. It should be the aim of the physician who administers the treatment to increase the dosage with such care as not to produce a severe reaction during the entire time of treatment. If a severe reaction should occur, it is advisable to return to the next, or possibly even the second weaker dilution.

Detailed information has been received from those who have had considerable experience with this form of treatment, and their opinions are herewith recorded as a means of interest and stimulation to those who have never used it. The following questionnaire was used to ascertain the facts which are presented:

1. What stages of the disease were treated?
2. What complications of pulmonary tuberculosis were treated?
3. Which did the most good, extract or suspension?
4. Duration of treatment?
5. Was the regular scheme of increasing the strength of dilutions after five injections followed out or did you follow a scheme of your own, which by your experience has proven satisfactory?
6. Any general or local reactions?

7. Did the patients show evidences of focal reactions when the higher dilutions were used? If so, what further steps were taken in this treatment?

8. What were the leading subjective and objective symptoms, or signs, of improvement during the course of treatment? (a) Improvement of appetite? (b) Gain in weight? (c) Less physical signs and symptoms? (d) Increased capacity for work? (e) Improvement of local lesions?

9. What percentage of cases showed no noticeable change and what percentage of cases did badly?

10. Did you notice any particular symptoms heretofore not referred to, that are worthy of note?

Dr. W. T. Williams of the Mt. Carmel Dispensary reports that moderately advanced cases were treated with Dixon's fluid, but cases were chosen which had improved to a certain degree and then remained stationary, and were practically free from complications. The extract was used routinely, considering it safer than the suspension. There was no change from the usual scheme of increasing the strength of the dilutions after five injections. Only one or two cases showed a rise of temperature. Practically no other symptoms of reaction were noticed and no abscesses. There were no reactions in the higher dilutions. In other cases treated there was not much change in appetite, or weight, but the physical signs and symptoms were improved as a rule. Patients were able to do more work and the local lesions showed evidences of improvement. In a number of instances a feeling of well-being was experienced. Dr. Williams considers the extract a tonic and that improvement is slow, but the powers of resistance are increased.

Dr. C. R. Phillips, of the Harrisburg State Tuberculosis Dispensary, states that they treated principally incipient cases, but some were moderately advanced. The principal complication was glandular tuberculosis (cervical usually) though they felt that they obtained brilliant results from rapidly increasing doses in an old bone case. They used the extract routinely and the injections covered periods ranging from five to twelve months. They have had patients taking tuberculin for twenty-four months, and with two exceptions, those having taken the treatment longest have shown the best results. While two or three injections in the hundreds given were followed by pain or discomfort, none were followed by any more serious result and they were so few as to be almost negligible. One case of urticaria followed within twenty-four hours of an injection, but it did not recur with subsequent injections. Seven per cent. of the cases lost weight (a few pounds), 20 per cent. of the cases were unchanged in weight; 73 per cent. gained from 2 to 18 pounds, an average of 7 pounds; 73 per cent. had better appetites and digestion, 20 per cent. were unchanged in this respect and 7 per cent. were worse.

Dr. Phillips refers to a condition which he thinks is noteworthy. In quite a few of the cases, where the gain in weight was so small as to be negligible, there was a marked improvement in what for a better term he would call "feeling of well-being."

It may be worthy of note that glandular cases in which the extract was injected directly into the hypertrophied cervical glands, seemed to do better than those in which the extract was injected into the back between the scapulæ. Those in which the injections were increased rapidly all seemed to bear the increase well and to show evidence of improvement.

Dr. J. M. McNall, of the Wilkinsburg State Tuberculosis Dispensary, reported a series of very interesting cases in which incipient, moderately advanced and far advanced selected cases were treated with the extract of the tubercle bacilli. Some of these cases were complicated with tuberculous pleurisy, asthma, goiter, corneal ulcers and cervical adenitis. In a majority of instances there was a diminution in physical signs and symptoms, also improvement of local lesions, with a gain in weight after the injections. Very few showed an increased capacity for work.

Dr. J. D. Moore, of the New Castle State Tuberculosis Dispensary, reports that, without exception, in well-selected cases the results have been beneficial. In a number of cases it seems to have brought about a cure, as they have many patients to whom they have administered 10 to 150 injections of the extract (which they prefer) that are now performing their duties without a return of a single symptom, and are in perfect health, and have been for a period extending from one to five years.

In regard to the manner of administering of this remedy they are not entirely governed by the department's instructions, although the essential ideas are followed out. Patients, making a rapid recovery and bearing the injections without serious reactions, are pushed along more rapidly than others who recover more slowly. Dr. Moore believes that any ordinary incipient case of pulmonary tuberculosis will with proper care, together with the judicious use of the extract, make a perfect recovery. He has also used the extract in many advanced cases; the majority of these have shown complete arrest of the disease and a large percentage have shown marked continuous improvement under its employment. A number of these patients, although discharged from the dispensary, have been seen from time to time and are still performing their usual duties in the mill, on the farm or in the work shop, and who state that they are completely cured. Dr. Moore, however, prefers to consider them arrested cases.

The duration of treatment in these cases was governed entirely by their improvement. In some instances they would give from fifteen to twenty-five treatments, but the maximum number of doses was 75 to 150. The time varied from about four months to two years. The local reactions were very slight and appeared in almost every case but no sores, ulcers, or abscesses have resulted. In a few of the many cases treated some general reaction was observed, all in cases of the far-advanced type. These reactions were not noticed at any special time, as early or late, in the treatment. The general signs of improvement were gain in weight and strength, increased appetite, decrease or loss of cough, diminution in extent of original involvement, improvement of all local lesions and an increased capacity for work together with a general feeling of well-being.

Dr. W. E. Matthews, of the Johnstown State Tuberculosis Dispensary, states that some of the patients treated showed marked improvement as to general symptoms, with increased capacity for work and improvement of the local lesions, while others did not seem to be much affected by its use.

Dr. E. J. Murphy, of the Frankford State Tuberculosis Dispensary, reports that all three stages of the disease were treated exclusively by tuberculin extract and that the regular method of dosage was used. There were no particular local reactions, but there were general reactions in a small percentage of cases, and two cases of hemoptysis. With these two exceptions there did not seem to be any change in the lesions, but improvement was shown by increased appetite and weight and increased capacity for work. Sixty per cent. of the cases treated showed improvement, 25 per cent. did badly and 15 per cent. remained stationary. The treatment lasted from one to seven months. Tuberculous adenitis was treated with very good results.

Dr. C. W. Youngman, of the Williamsport State Tuberculosis Dispensary, reports on a series of fifty-nine cases, most of which were moderately or far advanced. Such conditions as cavities, suppurative glands and laryngitis existed in many of these cases. One severe case of laryngitis was cured. There were also kidney and bladder complications. The tubercle bacillus extract was the only form of tuberculin used. The average length of treatment was nine months and the usual scheme of increasing the dose in the smallest dilutions was adhered to throughout. Many slight general reactions were noticed, but no local ones. He had no abscesses or other trouble at the site of injection. The higher dilutions did not produce any focal reactions. In nearly every instance the leading signs of improvement were improved appetite, slight gain in weight, marked diminution of physical signs, increased capacity for work and improvement in the lesions. All patients showed improvement and, if they abandoned treatment, they did badly. Of the fifty-nine cases treated, there were eight deaths, or about 13 per cent.; the remaining fifty-one patients are living, with eight of them still on treatment; forty-three of the patients remaining are attending to their business, and most of them are in an arrested state. Dr. Youngman is fully convinced that the treatment is most efficient in selected cases.

The results at the Shenandoah State Tuberculosis Dispensary since 1909 are as follows: "The moderately advanced and far advanced cases were treated, some cases having as complications, adenitis, laryngitis and pleuritis. The extract has been used routinely. In case any reaction occurred, the dose below the one previously given was used until there appeared no reaction, then gradually increased. About 25 per cent. showed evidences of local reaction. In these cases they dropped back to the dilution below and then came up again. Eighty-five per cent. of the patients showed improvement in appetite, while 75 per cent. gained in weight; 60 per cent. had less physical signs and symptoms; 33 per cent. showed increased capacity for work; 50 per cent. showed improvement of local lesions while 33 per cent. showed no noticeable change; 33 per cent. did badly, and all of these were far advanced cases."

Dr. C. W. Schmehl, of the Warren State Tuberculosis Dispensary, states that the suspension, only, was used. There was considerable redness, pain and tenderness when the higher dilutions were used. In these cases treatment was not interrupted as to doses, but the intervals between injections were lengthened, depending upon the reaction present at the time. A gain in weight was noticed in 60 per cent. of the cases.

In a series of cases reported upon by Dr. J. S. Miller, of the York State Tuberculosis Dispensary, all the patients showed a gain in weight, the average gain being six pounds.

There were no general or local reactions. A general improvement was noted in all. These were less subjective and objective symptoms in each case and the physical signs of the local lesions were improved in each instance. Five of the seven cases were able to do more work. The extract was used in every case.

Dr. H. F. McDowell, of the Franklin State Tuberculosis Dispensary, reported a very interesting case where tuberculous osteomyelitis of the great toes was entirely healed by using the suspension of the tubercle bacilli. This case was also complicated by a tuberculous kidney, which condition improved under the influence of the tuberculin treatment. The patient gained in weight and developed a splendid appetite.

Dr. Charles H. Miner and his assistants, Dr. Edward W. Bixby and Dr. Andrew T. McClintock, of the Wilkes-Barre State Tuberculosis Dispensary, have reported the following interesting summary of their work:

	No.
Cases treated with Dixon's Tuberculin (with ten doses or more)	38
Patients under 15 years of age	38
Patients under 10 years of age	20
Patients having positive family history	35
Patients whose sputum show tubercle bacilli	3
Patients whose sputum did not show tubercle bacilli	6
Patients whose sputum was not examined	29
Patients giving a positive skin test	8
Patients giving a negative skin test	5
Patients untested	25
Patients having a history of hemoptysis	9
Patients having a history of chills	16
Patients having a history of sweats at night	20
Patients having a history of pain	18
Patients having fever on admission	36
Months during which tuberculin was given on an average	7
Injections on the average	18
Patients still on tuberculin	13
Months on average elapsed since treatment stopped in twenty-five	6
Months on average (nine long periods omitted) between admission and beginning of treatment	4.6
Patients below normal weight on admission	26
Patients above normal weight on admission	8
Pounds on average-patients were underweight	10.83
Patients below normal weight when treatment began	20
Pounds on average-patients were underweight when treatment began	7.5
Patients gaining weight under treatment	33
Pounds gained on average	4.17
Of twenty-five patients holding or gaining weight since treatment was stopped	22
Pounds on average gained by these in last one to eleven months	4.67
Patients having a local reaction after injection, one to three times	24
Patients having a local reaction more than three times	1
Patients having a rise in temperature after injections	4
Patients having a constitutional reaction after injections	4
Patients having operations for adenoids and tonsils	9
Patients having sanatorium treatment	6

GLANDULAR TUBERCULOSIS

The treatment of glandular tuberculosis by operation is now considered to be unsatisfactory by our best surgeons, having found from experience that there is usually danger of spreading infection and, even where this does not occur, such operations are generally followed by the growth of new tubercles.

It has been clearly demonstrated that the use of the tubercle bacilli products, as a curative agent in this condition, is the best treatment. Upon this point we have the testimony of the best authorities outside of the department, here and abroad, in addition to our own experience at the state sanatoria and in many of the dispensaries where the treatment has been carried on.

TUBERCULOSIS OF THE BONES

Statistics show that many cases of chronic bone tuberculosis are benefitted by tuberculin treatment, and therefore, it should be given a satisfactory trial in such instances.

PULMONARY TUBERCULOSIS

Many cases, after treatment at the dispensary and faithful compliance with the instructions of the physicians and nurses as to fresh air, rest and diet, improve up to a certain point and then remain stationary. Their fever subsides to slightly above normal and the toxemia of the disease abates but there is very little or no gain in weight, no ability to work or to be of service to others, the digestion is poor and the changes in the physical signs are not as rapid as desired. In such cases the use of tuberculin is of great assistance.

As the above reports show, there is gain in weight, improvement of appetite, increased capacity for work, and in many instances a disappearance of the pathological signs of the chest. The extract should be used by beginners in this treatment, and as time goes on, the suspension may be used. In case there is a reaction after a number of dilutions have been used, it is wise to resort to the next lower one or a dilution several points lower than the one used, or the dilution used where no reaction was previously noted. Some cases seem to thrive best on a continuous use of the lower dilutions. That dilution may be different in each individual case.

With such a valuable addition to the means at hand for the treatment of this common and chronic disease it is incumbent upon each physician at least to give it a thorough trial before reaching the conclusion that he has done all in his power toward the control of this affection.

220 Kelker Street.

SOME RELATIONS BETWEEN SEWERAGE AND PUBLIC HEALTH *

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HARRISBURG

On every hand we see the waste resulting from human existence. Much of this waste is avoidable, but because of the extravagant habits generated by years of prosperity we have grown to believe that this method of living is necessary. There are three principal classes of waste from dwellings, ashes and rubbish, garbage and sewage, this latter the most important to the sanitarian because of its capability of producing or spreading disease and since it presents the most difficulties in removal from dwellings and final disposal.

Sewage is complex and variable in its composition. It comprises solid and liquid excreta from the body; waste water from laundries, bathtubs and kitchens; liquid waste from stables; refuse from factories and ofttimes the excess of rain water. When fresh it is not so offensive to the senses as after putrefaction has begun. It is essential that it be removed from the vicinity of dwellings immediately after its production and before decomposition commences.

In the rural communities where the water carriage system of sewerage is unknown or little used and where the habitations are scattered, sewage disposal is to a large extent simply a matter of common sense and ordinary cleanliness, a condition not always obtaining, but this does not apply to our cities, as is evident when we consider the volume of sewage to be handled. Statistics show that the volume of sewage from our cities is enormous, ranging from 50 to perhaps 300 gallons daily for each individual of the community. This large volume is to a considerable extent due to our extravagant use of water, resulting on the one hand in a constant endeavor and burden to increase the capacity of our waterworks and on the other in the equally onerous duty of disposing of the resultant wastes.

Accustomed as we are to present-day methods of sewerage, it is difficult to realize that modern sanitary sewerage systems are a comparatively recent development; that the widespread use of water carriage for fecal matter is less than a century old, the movement starting about 1850. Such rapid progress has since been made that now all the larger cities of the country have practically complete sewerage systems with regulations requiring universal house connections. So far have we advanced along this line that public opinion is demanding, as a matter of course, adequate sewerage in virtually every community of even moderate size.

The benefit resulting from the general introduction of sewerage systems in cities is difficult to estimate. Improper removal of household drainage in a town is a public menace to the health of the entire community. Privies and cesspools should have no place in a closely built-up area. Unless care is exercised their existence affords an opportunity for the spread of disease by insects and animals and the pollution of local wells. Statistics show that the introduction of sewerage systems and the abandonment of privies have been followed by a decrease in the general death rate of many cities. To mention a single instance, Dr. Porter has stated that in Stockport, England, during the years 1893-7, typhoid fever occurred in 3.4 per cent. of the houses where there were privies, but in only 1.2 per cent. of the houses that had sewer connections, these figures being based on a study of over 18,000 houses.

In addition to improvements in the prevention of sewage-borne diseases, there must also be considered the general social betterment resulting from the elimination of filth about the premises leading to more cleanly habits and higher ideals of living. The effect of such influences in a community is difficult to estimate.

A direct consequence of sewering our cities has been the gross pollution of water courses, for the common method of disposal is to discharge the sewage into a convenient body of water. The typhoid fever rate which obtained in Pennsylvania less than a generation ago was the direct result of pouring raw sewage into our streams, which later were used as sources of water supply by other municipalities. In the past twelve years the typhoid death rate has been reduced over 75 per cent., so that during 1917 we had only 5,000 cases of typhoid fever as against more than 24,000 in 1906, and less than 1,000 deaths as against nearly 4,000 in 1906. This reduction in typhoid fever has been brought about almost entirely by improvement in water supplies and proper methods of sewerage and sewage treatment.

The installation of a water filtration plant or other protective measures in connection with a municipal water supply are not sufficient to safeguard a community against typhoid fever

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* Read by H. E. Moses before the Northampton County Medical Society, March 15, 1918.

if the source from which the water supply is obtained is grossly polluted by sewage, for a water filtration plant, like any other contrivance, is not constantly maintained at the highest degree of efficiency, and if the raw water supply is grossly contaminated the chances for pollution passing the filter are much greater when the supply is grossly polluted than when it is subject to only moderate pollution. Sanitarians do not believe that our great water courses can ever be returned to their original state of purity, but it is believed that the pollution can be reduced to such an extent that the existing danger of water-borne infections is reduced very materially.

The medical profession has long recognized the importance of preventing diseases and is directing its attention to the conditions that breed them. Therefore, it is fitting that your county medical society take an active interest in improved sewerage for Easton. Unfortunately, this city is far behind most other communities of its size in this and neighboring states. Conditions in Easton are peculiar. Your sewage is discharged into the Delaware River, which also receives sewage not only from other municipalities in Pennsylvania, but also those in New Jersey, but fortunately the State Department of Health of New Jersey and Pennsylvania are working in closest harmony so that improvement work effected on either side of the river will result in benefit to citizens of both commonwealths.

The Delaware River is extensively used as a source of water supply, particularly in the lower portion of the valley. In a comparatively short distance Easton, Trenton, Bristol, Burlington and Philadelphia, representing a population of some two million people, are depending upon the stream for water supply. While these people reside in separate communties they are all citizens of one country, and it is not proper that the actions of any community should react on the others. In a sense, we are all brothers and must not interfere with the right to health of another. Just as the residents of Easton expect the state authorities to maintain the Delaware River in a condition of reasonable purity for their benefit, so the residents of the lower communities expect the same protection regarding the sewage of Easton.

Improved sewerage and a pure water supply have a direct bearing on the prosperity of any community. Manufacturers hesitate to locate in a city unless they find that favorable and healthful living conditions for their employees are obtainable. Furthermore, workers in the mills and other industries are beginning to realize this same principle and frequently write to the state or municipal health authorities requesting information regarding sanitary conditions in a certain city, saying that a position has been offered them in that locality, but they do not care to move their families unless they can be assured that health conditions in the town are satisfactory.

Since its organization in 1905, the Pennsylvania Department of Health has unceasingly carried on a campaign of health work, in which effort it has been aided nobly by the medical profession. This combined work has resulted in placing this commonwealth in the very front rank of states engaged in health conservation. These efforts have been productive of good results in saving the lives of our citizens and in promoting improved living conditions.

No small portion of this work has been along the line of safer water supplies and improved sewerage. Today there are in Pennsylvania at least 225 water purification plants of various types supplying water to several million people. Of these plants at least 60 per cent. are complete filtration works and supply the public chiefly in urban and suburban districts with a total population of over 4,000,000, or nearly 50 per cent. of the entire population of the state. The supplies are usually obtained from comparatively large streams subject to dangerous pollution. Thus it is readily seen what an important factor this phase of health work is in the life of our citizens.

Of equal importance perhaps is the question of sewage treatment. Water-borne diseases include typhoid fever, Asiatic cholera, dysentery and various forms of enteritis, and a water supply even slightly contaminated with the intestinal discharges of any considerable number of persons is sure to contain in the course of a year some germs of this type. It is, of course, absolutely impracticable to depopulate the drainage areas of the major streams used as sources of water supply for our citizens. Therefore, the aim of the sanitarian is in the first place to devise means of purifying water at moderate cost, and secondly, to control stream pollution.

Pennsylvania has today in operation 148 sewage treatment works in municipalities, institutions and industrial establishments. These works treat an enormous volume of sewage, thereby reducing by that extent the burden placed on our water filtration plants. This work is but fairly started.

In your own district this movement is being felt. In his inaugural address, Mayor Johnston pledged himself to work for a greater Bethlehem and stated that a crying need of the community was improved sewerage and sewage treatment. Allentown has but recently acquired a site for sewage treatment works. Your neighbor across the river, Philipsburg, is preparing to install improved sewerage facilities. Down stream Trenton is proceeding along similar lines, Bristol already has a sewage disposal works, and the city of Philadelphia is preparing to spend millions in sewerage improvements, the work already being well under way. Numerous other instances might be mentioned illustrative of the impetus the movement is acquiring throughout the state and country.

Here in Easton the question of improved sewerage has been a burning one for some time, on at least two occasions the issue having been submitted to popular vote, the last time almost carrying. This city is growing and has long since outgrown its sewer system, which as at present constituted cares for only a small percentage of your homes. Your city officials as well as the State Health Department have been importuned by your citizens for improved sewerage. The need is evident to even a casual observer who may note household drainage discharged into gutters and finding its way on the surface to the nearest water course or street inlet to a storm drain.

From a financial standpoint improved sewerage should appeal to the householder as against an annual cost for cleaning cesspools or disposing of the sewage in some other similar manner. If we should assume that a complete system of sewerage and sewage treatment works would cost $750,000, which amount is probably far in excess of the actual cost of sewering Easton, then on the basis of 30,000 people in 6,000 homes the proportionate share to each home would amount to approximately $125. If this were divided over thirty years, the usual life of municipal bonds, the cost per annum, including sinking fund and interest charges, would certainly not be in excess of $10. Cleaning a cesspool twice a year would represent a greater expenditure than this amount, to say nothing of the greater convenience afforded by improved sewerage facilities and the additional safeguarding of the public health.

The foregoing considerations apply not only to Easton, but to the other communities in this county, their application differing perhaps only in degree. An opportunity thus appears to be afforded your county medical society for active, progressive work along lines that are a part of the every-day life of the modern medical practitioner, namely, the conservation of health. It is suggested that strong, active work on the part of your association with a view to improving sewerage conditions, not only in Easton, but throughout the entire county, would accomplish wonderful results and redound to the credit of your honorable body. Certainly such action on your part could be construed only in the light of an act prompted by unselfishness and a realization of the needs of the community in which each one of you resides. I bespeak on behalf of the state and municipal health authorities your earnest cooperation in these vital matters.

"ACUTE INDIGESTION"*

S. D. MOLYNEUX, M.D.
SAYRE

I have been led to choose this as the title of my paper from the fact that it is of such frequent occurrence to see in the daily papers the announcement of the illness or death of some one with "acute indigestion." I never read a paragraph of this kind without conjecturing as to what was the actual underlying cause of the illness. That people do actually have acute indigestion at times cannot be doubted, but that it is of such seriousness as to cause severe illness or death is doubtful. How easy it is when we find an acute disturbance in the abdomen with meager history and indefinite symptomatology to call it "acute indigestion" and be content. It satisfies many physicians — far too many—to make such a diagnosis, because the patient's friends are satisfied with it, and they are satisfied with it because they can always tell of some indiscretion of diet of which the poor patient, who is not able to defend himself, has been guilty. I believe, however, that the diagnosis of "acute indigestion" is wrong in most instances and is made either through ignorance or carelessness. I am more convinced of this as time goes on and I see more of these cases come to the operating table and the pathologic conditions disclosed. There is no class of cases that require more definite knowledge in diagnosis and better powers of observation or greater skill in treatment than acute abdominal conditions. There is no time to observe the patient for more definite symptoms to develop, but the diagnosis must be made at once, and treatment instituted if the patient's life is to be saved.

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* Read before the Wayne County Medical Society, May 15, 1917, and the Bradford County Medical Society, Sept. 10, 1918.

"Acute indigestion" as a primary condition is usually brought on by an error in diet, improper food, food improperly cooked, or food in injudicious quantities. Some of the cases can be classified as ptomain poisoning; tainted meats, oysters or other sea foods, or canned goods very frequently cause it, as do overindulgence in alcoholic beverages, although in the case of alcoholics it is more apt to take the form of an intense gastritis. Anything that causes a cessation of the digestive function will produce it, such as fright, grief or shock coming on directly after a full meal. How wisely nature tries to prevent trouble in such instances by a hurried emptying of the stomach.

The symptoms of true acute indigestion are abdominal pain, severe in some cases, and of a cramplike character occurring at intervals. Nausea and vomiting, moderate distention, and in most cases diarrhea with more or less relief after each evacuation. There is usually some fever but no leukocytosis. Physical examination elicits no point of tenderness or any rigidity of the abdominal muscles. Pressure relieves the pain to some extent, while the opposite is true in inflammatory conditions. The attacks are usually of short duration and subside after a thorough clearing out of the intestinal tract, and nothing acts any better for this than castor oil. Intestinal antiseptics combined with paregoric or deodorized tincture of opium will be of benefit after the action secured by the laxative.

In the differential diagnosis the first condition that should be considered is angina pectoris. This, I believe, is responsible for most of the deaths that occur within a few hours of the onset of the attack. True angina is characterized by paroxysms of agonizing pain in the region of the heart, extending into the arms and neck, and accompanied usually with the sensation of impending death. It occurs most frequently in adult males with well-marked arteriosclerosis—men who are active mentally and physically and under great nervous or mental strain. It is more common in cases of aortic insufficiency than in other forms of heart disease. There is also present degenerative changes in the myocardium and coronary arteries. Aortic aneurysm is sometimes accompanied by it. In early adult life syphilis is usually the cause. Attacks practically never come on when the patient is quiet. Sudden muscular effort may initiate them, also emotion, as anger, joy or grief. Gaseous distention of the stomach, as sometimes occurs after a hearty meal or exposure to cold, may bring on an attack. During exertion or intense mental emotion the patient is seized with an agonizing pain and a sense of constriction in the region of the heart. The pain radiates to the neck and down the right arm, and there may be numbness of the fingers. The face is usually pallid and covered with cold perspiration. The paroxysm may last a minute or two, and the patient feels as if death were near. The patient is restless, anxious and apprehensive. The pulse is increased in tension, but often there is no other disturbance of it. There may be severe dyspnea, and a feeling of exhaustion follows the attack. The attacks may recur for years or death may come on with one of the early attacks or come suddenly when the patient is not having a paroxysm. The treatment consists in the administration of amylnitrite or chloroform during the paroxysm. Morphin should be given hypodermically for the pain. Between the attacks nitroglycerin and the iodids are indicated to help overcome the sclerosis. The diet should be regulated and habits corrected. Patients seldom recover entirely.

The second condition from which it is necessary to differentiate "acute indigestion" is perforated duodenal or gastric ulcer. In this condition there is sudden severe abdominal pain, subnormal temperature, increase in pulse and respiratory rate, marked rigidity of abdominal muscles (boardlike in character, almost pathognomonic), knees drawn up over abdomen, and a pinched, anxious expression. The liver dulness is decreased or absent, and there may be nausea and vomiting. Luekocytosis is present.

In making a diagnosis of duodenal or gastric ulcer the early history is of the utmost importance. In the early history pain is a characteristic symptom. It occurs from one to five hours after meals. The nearer the ulcer is to the cardia, the sooner after meals the pain occurs. The pain is relieved by taking food or alkalies. The patient also obtains relief by lavage or vomiting. Pain is at its height when the stomach is empty, one to five hours after eating, and does not radiate. It is not continuous unless complications have developed. Usually during the pain there is gas formation, and it is greatest when the pain is at its maximum. The more highly acid the stomach contents, the greater the discomfort from gas formation and the greater the pain. Relief from the gas formation is obtained in the same way as for the pain —food, alkalies, irrigation or vomiting. Vomiting is not an important symptom of ulcer, but there is more apt to be a nausea or eructation that is extremely sour and bitter. Later, however, vomiting becomes an important symptom if there is pyloric obstruction. Hemorrhage may or may not be present. Attacks usually come on in the fall or spring. Moynihan says, "Persistent, recurring hyperchlorhydria means duodenal ulcer." Constipation is an important symptom. As the motor power of the stomach decreases the constipation is increased. It usually varies with the periods of the attacks, the bowels being fairly normal in the intervals. Failure of nutrition is marked in the late stages, but is not noticed in the beginning. The test meal is valuable only when there is retention. The X-ray is a valuable aid in doubtful cases. Dr. Graham of Rochester, Minn., who has done so much to develop the symptomatology of gastric and duodenal ulcer, says, "It is not the chronicity or the periodicity that is peculiar, nor the degree or location of the pain, nor the gas or sour eructations, but the characteristic point is the time the pain appears with accompanying symptoms of gas, vomitus, sour eructations, its regularity after meals and the ease by which it is controlled by food, alkalies and lavage." This regularity, day after day, meal after meal, is not simulated by any other pathologic condition. A history of ulcer obtained and the diagnosis of perforated ulcer becomes almost absolute. Occasionally, however, a subacute perforation of an ulcer occurs when the acute symptoms are not so marked; the pain and tenderness are not localized, the rigidity is less, and the constitutional disturbance not severe. Nature cofferdams the process as it occurs. The pain may be most severe over McBurney's point and a diagnosis of appendicitis be made.

The treatment of perforated ulcer is surgical, and immediate operation is necessary if the patient's life is to be saved. The earlier the operation the better the results. Do not wait for the patient's condition to improve. Without operation the mortality is practically 100 per cent., therefore delay is fatal.

Acute gallbladder disturbance has very frequently been diagnosed "acute indigestion," and it is probably the condition present in a majority of the cases. Pain in the gallbladder is of sudden onset and most intense in the pit of the stomach. It may radiate very widely, differing from ulcer, which radiates scarcely at all. The usual direction is toward the right costal arch or shoulder region. If adhesions are present it may go to the left and downward. It is of sudden onset, irregular in occurrence, severe and cutting. It is independent of food, nor is it eased by it. Shock accompanies the attack, and relief is obtained only by a natural subsidence or a resort to morphin injections. Chills and fever may be present. Vomiting does not give the relief that it does in ulcer. Gas formation is greater than in ulcer. The attack ends abruptly, with a rapid return to normal. Hemorrhage in gallstones is rare. Jaundice occurs in about 25 per cent. of the cases. The bowels are constipated during an attack. Seventy-five per cent. of gallstone cases are women. Deaver, in his characteristic way, says, "Fair, fat and forty, and belches gas—gallstones." Many attacks occur at night, awakening patient from sound sleep. The history of typhoid fever or the first attack coming on during pregnancy, or soon after delivery, is helpful.

The treatment is surgical. There is no medical cure of gallstones. The calculi should be removed, and also the gallbladder, if it is diseased. The earlier the operation after the onset of the trouble the fewer complications are encountered and the lower the mortality rate.

Acute pancreatitis is another condition that must be kept in mind before the diagnosis of acute indigestion is justified. There is no other condition in the upper abdomen that has so indefinite a symptomatology as this disease. Without premonitory symptoms the patient is stricken down with sudden excruciating abdominal pain, colicky in character, accompanied by nausea and vomiting. Collapse follows shortly with rapid thready pulse, and leaky skin. The patient presents an ashen appearance not seen in any other condition. The abdomen is rigid and tender, and the bowels constipated. The temperature is normal or subnormal at first, but if death does not occur immediately it is later elevated. After the second or third days circumscribed areas of dulness can usually be found in the upper abdomen, due to the formation of abscesses. At operation, the pancreas is found enlarged, boggy and infiltrated with blood. Sometimes the hemorrhage is extensive and there may be marked fat necrosis. As in perforated gastric ulcer, the previous history is of utmost importance. A history of gallstones is of great value, for acute pancreatitis is secondary to obstructive gallbladder and common duct diseases in many instances. Deaver believes that the infection is communicated to the pancreas through the retroperitoneal lymphatics from the liver or intestinal tract.

The treatment of acute pancreatitis is surgical with multiple incisions and drainage of the pancreas and drainage of the gallbladder and liver ducts if obstructed. The earlier the operation the less damage will be sustained by the pancreas and the better the prognosis. The mortality is high. The best surgery on the pancreas is that on the biliary tract before the condition develops.

Pneumonia and diaphragmatic pleurisy on the right side may be confused with "acute indigestion." There may be sudden pain, tenderness and rigidity in the upper abdomen with leukocytosis. The mistake is more apt to be made in children than in adults, not only with indigestion, but with acute appendicitis. However, a careful physical examination will show the lung condition, with its accompanying pleurisy. The respirations are more rapid than in abdominal conditions, and of a catchy character. The temperature is higher. Cough may not be noticeable.

Acute appendicitis is diagnosed as indigestion very frequently. Here the history of previous attacks is of great value. In acute appendicitis we find a sequence of symptoms that is not present in any other lesion, sudden, severe abdominal pain, cramplike in character, followed immediately or in a few hours by nausea or vomiting, tenderness over the appendix, with rigidity, fever and leukocytosis. The symptoms almost invariably appear in the order named, and when they do not the diagnosis should be questioned. There is no medical treatment for acute appendicitis.

In extra-uterine pregnancy there may be sudden acute abdominal pain with diffuse tenderness, increase in pulse rate and symptoms of collapse. Death sometimes occurs shortly. I believe many death certificates have been written as "acute indigestion" that should have been called "extra-uterine pregnancy." There is a history of deranged menstrual flow, usually one or two periods missed, and then more or less continuous flowing. Anemia may be marked. Examination shows extreme tenderness in the lower abdomen with a soft doughy mass in the culdesac excruciatingly tender to the touch. The uterus is enlarged. The temperature is usually subnormal at the time of rupture of the gestation sac, and then becomes moderately elevated.

The treatment of extra-uterine pregnancy is immediate abdominal section.

In renal colic there is pain and vomiting. The pain is intense and continuous. Fever and leukocytosis are absent and the urine is bloody. Dietl's crisis presents the same symptoms, but the quantity of the blood in the urine is much less. The right kidney is found enlarged and tender. Cystoscopic examination is the only absolute way of arriving at a diagnosis in kidney conditions. The roentgen ray will be of aid.

Acute inflammation of Meckel's diverticulum must be considered in diagnosing acute abdominal conditions. Also inflammation or rupture of diverticuli of the sigmoid.

Ovarian cysts or pedunculated fibroids of the uterus twisted on their pedicles may simulate "acute indigestion." Here, however, there may be a history of menstrual disturbance and, unless late and the tumors have become necrotic, fever and leukocytosis are absent. Examination reveals the presence of a mass.

Lead colic must be eliminated in the differential diagnosis. Many patients who have had lead colic have been subjected to unnecessary operations. The pain in lead colic is continuous, vomiting is not marked. Fever is not present. The erythrocytes are changed, but the leukocytes remain normal. Constipation is aggravated. The blue line on the gums or the history of wrist drop will clinch the diagnosis.

Recently, in consultation, I saw a patient whose only complaint was repeated attacks of pain in the upper abdomen with persistent nausea and vomiting. The pain radiated around both costal margins. Examination disclosed absent knee jerks, Argyll-Robertson pupils, and a positive Romberg. The Wassermann test on her spinal fluid and blood were both positive. I need not say anything further of the necessity of ruling out the crisis of tabes dorsalis in these acute abdominal conditions.

Another condition that I wish to remind you of is the possibility of an aneurysm of the thoracic or abdominal aorta. It is well in every case to follow the course of the aorta for a short distance to discover the presence of a pulsating tumor.

Intestinal Obstruction.—The symptoms of this condition depend on whether the obstruction is complete or partial. The symptoms may be primarily acute or there are acute symptoms supervening on a chronic partial obstruction. When this condition is suspected all hernial rings should be examined, for strangulated hernia is undoubtedly the most frequent cause of intestinal obstruction. In the upper abdomen diaphragmatic hernia must be kept in mind.

Adhesions following operations or old inflammations are a frequent cause. Volvulus is not uncommon. Intussusception, especially in children, tumors, foreign bodies, or strictures following ulcers must be considered. It is not necessary to determine just what the cause of the obstruction is. It is more important to know that it exists. Let the surgeon make the differential diagnosis. Pain in obstruction is misleading. The more acute the obstruction the more severe the pain. The pain is colicky in character, corresponding to the waves of peristalsis. Borborygmus may be heard and is almost pathognomonic. Distention will depend on the location of the obstruction. The more intestine proximal to the obstruction, the greater the distention. Vomiting is present; the higher the obstruction, the earlier it appears and the more persistent it is. The vomiting of fecal matter never occurs in any other condition. Fever may or may not be present. Tenderness and rigidity are not characteristic. Leukocytosis may or may not be present. Operation should be advised as soon as the diagnosis is made.

Eclampsia may give acute abdominal pain. The blood pressure reading or the urine examination will make the diagnosis.

In conclusion I wish to impress on you the value of a thorough physical examination in all acute abdominal conditions. Use every means at your command to arrive at an accurate diagnosis. Let the diagnosis of "acute indigestion" be the last rather than the first thing considered. Have the patient stripped and in as good light as possible. Examine by inspection, palpation, percussion and auscultation. Do not omit vaginal and rectal examinations. Use the stomach tube if necessary. If possible, examine patient in sitting or standing position as well as recumbent one. Often conditions will be revealed in this way that would be missed if the patient were lying down. Consider every possibility. Do not omit in each case to take a careful history. Give attention to what the patient tells you, but do not be mislead by symptoms overexaggerated. I believe that if more attention were given to these acute cases more accurate diagnosis would be made. Do not mask symptoms with hypodermics. If in doubt as to the diagnosis, advise consultation or operation.

Advertising is a necessary substitute for salesmen called to the colors.
Advertising introduces and guarantees the merits of goods. Advertised goods must be good goods.
Advertising is simultaneously read in hundreds of towns, and by thousands of subscribers, who could not be reached by salesmen.
Advertising keeps new and fresh goods on sale; while unadvertised goods go stale, and are shopworn.
Advertising is a guaranty of quality.
Advertised goods remain stable in price. In these times of advancing prices, advertised goods are sold at less profit than unadvertised goods, hence are more economical for the consumer.

INCIPIENT MENTAL CONDITIONS*

A. J. CAPRON, M.D.
OWEGO, N. Y.

There is so much to be said on mental conditions today, and so much to be done in this field, that I am going to place before you a duty that rests upon us as medical men, a duty that must be furthered by us if we are to advance to the good results that can be obtained.

This war, more than anything occurring in the past, has brought before us very forcibly that mental conditions in the incipient stages must receive our attention. In civil life we have taken the presence of the peculiar and inefficient as something that could be tolerated, and the economic loss and social burden as something that must be borne. As a result, there has not been the attention given to the early stages of mental inefficiency, warping and deterioration that these stages rightly deserve.

The cry would frequently arise that insanity was increasing, that our hospitals are overcrowded, that our institutions for the feebleminded are inadequate, etc., and there the matter would rest with few exceptions.

There is, though, some pioneer work being done these last few years. This is still in its infancy. New York State has established a few clinics where patients, in known or suspected cases, could go or be taken, and there be examined by skilled observers. Much good has resulted, but the work in this field has hardly been touched.

The National Committee of Mental Hygiene is doing invaluable work along these lines. The secretary and the man responsible for the founding of this committee is Mr. Clifford W. Beers. Dr. Thomas W. Salmon, the director of special studies, is the man that directs its important work. This committee caused a survey to be made in portions of New York State. The figures developed were startling. Some other states have also been surveyed with like results. An estimate made for the whole country places the mental defectives at about 1 in 500. This in the light of more recent work, I think is low. The estimate also is that only about 10 per cent. of them are cared for in institutions.

I do not feel that every criminal or lazy lout should be immediately called insane or defective, and his shortcomings be overlooked on that score as is the tendency on the part of some of our overzealous, tender-hearted workers in the charitable and sociological fields. This is rather on a par with the tendency of some kind-hearted sentimental woman to deluge the murderer with bouquets and other manifestations of silly sentimentality.

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* Read before the Bradford County Medical Society, March 12, 1918.

I feel, though, that studies and then further studies will show us that much inefficiency and many shortcomings are primarily due to mental deficiency or alienation, and that much can be done by apprehending these cases early and thereby preventing serious economic waste.

This world war forcibly brought forth the fact that the inefficient man was not only inefficient, but was detrimental, dangerous and a drag on the army. It is gradually dawning on the reasoning public that if so in the army, he is all these in manufacturing, production and administration. At the present moment the ultimate results in these fields are so closely and vitally linked with the army and the results that it will attain, that they are giving these points serious consideration.

Our government so thoroughly realized this that, as soon as it began to assemble our men for our great work in helping subjugate the egotistical paranoiac of Europe, it took steps to cull out the inefficient mentally as well as physically. Psychiatrists were appealed to and the duty turned over to them. Dr. Salmon was called to Washington and then sent abroad to study the situation; Dr. Pearce Bailey and others were summoned there to organize the work in this country.

Now every camp has its alienist to work in his special field. They are culling out the mentally deficient, the incompetent and the advanced mental cases. Some of the cases apprehended have been in the advanced stages of well-defined psychoses. Out of one of the officers' training camps, I understand that cases of general paralysis and central syphilis have been removed. Ataxic gaits, Argyll Robertson pupils, tremors and abnormal reflexes, etc., were found.

Think of the possibilities, the calamities that might result. A man that is afflicted with the exaggerated ego and the defective judgment of the paretic in charge of and leading troops! I was informed that 1 in 100 was found in the above referred to camp.

The great experience forced on us by this war is going to help us; teach us that the early cases of mental alienation must be diagnosed and cared for and the public at large be protected from their inefficiency and other serious results, and that the patient must be helped as well by giving him the advantages of treatment when treatment is of avail. In order to do this we shall require considerable educating. This work falls on the physician in greater part. The recent application of the use of the word efficiency is also going to help. The employers of large amounts of labor are going to do their part, as they must weed out the inefficient to compete successfully. You, gentlemen, as medical men have the greater part, though, of this work thrust upon you. It is your task to teach the people that the mentally afflicted are sick and have the same rights to proper care and treatment as has the patient in a case of pneumonia or broken leg; that they should be cared for before their condition runs into hopeless chronicity. Teach them that the much misunderstood word "insanity" covers a broad field of meaning and refers to many different conditions. The word alone does not convey any idea as to the condition that may present. Teach them that the fact that a person is diagnosed as insane does not of necessity make a wild animal of him. He is still a man, a sick man. Teach them that for many of these cases there is a hopeful outlook if the case is treated in time.

Because of these mistaken ideas the mental case is most unfairly treated. The friends go to absurd lengths to cover up the affliction and to keep the patient at home, thereby depriving him of early and proper care.

Since time was young the mentally afflicted have been looked down upon, despised and neglected. Such an affliction has been considered a disgrace and something to hide. When we stop and consider that alcoholism and the results of dissipation directly and indirectly are responsible for a very large percentage of mental conditions we may have reached a reason for this being so.

The viewpoint of the public must be changed in this matter if adequate results are to be obtained. Measures that will reduce the constantly increasing number of chronic cases to be cared for and that will prevent the development of new cases must receive attention. It is only by the education of the public to a proper viewpoint that the incipient cases will come to our attention, and opportunity be given to help them in time.

A few figures and comparisons may be of interest at this time. These figures are of the time before the war, and will have to be changed for the present time, but they are comparatively recent.

Insane in institutions in U. S.	187,454
Military service, all branches in U. S.	142,695
Students in college in U. S.	184,712
Cost for caring for the insane yearly	$32,804,450
Panama Canal construction, yearly cost	$32,520,100
Deaths from general paralysis in New York state in one year	590
The same year deaths from smallpox in the whole U. S.	134

Truly, gentlemen, it is the *great pox*.

John Kallikak, a revolutionary soldier, married a woman of good family, of his own station in life, and had 496 descendants, all of which were normal and healthy. Many gained marked eminence in law, medicine, the army, commercial and social life. He had issue also from the feebleminded daughter of an inn keeper. This resulted in 480 descendants. Of these, 143 were feebleminded; 44 were considered normal. Of the remaining 293 some were classified as undetermined and the rest they have been unable to trace. In people of this class it is many times quite difficult to trace them.

The above figures aid in throwing some light on the question. Surely anything that will prevent or diminish the numbers of the feebleminded and mentally sick is quite worth while.

I think that there is no greater one factor, that has such far-reaching results with the incipient mental cases than the proper viewpoint of the public at large. They must be educated so that they will view these things in their proper light, thereby lending their aid when it is of the most good.

It is up to us to educate them.

THE WOMAN DOCTOR IN WAR*

ADELAIDE ELLSWORTH, M.D.
WARREN

It is no longer necessary for woman to plead her own cause. Every government is doing that for her. At last we are seeing the coming to full power and glory of a new age when men and women shall stand side by side in equality for everything that is good and for everything that is noble in the making of a better world. The cry is "women wanted," women wanted everywhere. Everywhere from the fireside to the firing line. The capitals of Europe have for three years been placarded with the sign, and now we Americans are writing it on our skylines, in our factories, halls of government, arsenals and even the war offices. Germany in the first year of the war had a half million women in one occupation alone, that of making munitions. France has four hundred thousand "munitionetts." Great Britain last spring had a million women who had enlisted for the places of men since the war began. In every one of Europe's warring countries, women are being rushed as rapidly as possible into commerce and industry to release men. In Germany all the bank clerks are women, the Bank of France alone has 700 women clerks, and in England women clerks now number 100,000. And the British government is steadily advertising "Wanted 30,000 women a week to replace men for the armies." The British War Office publishes a guide to employers of labor throughout the United Kingdom under the title of Women's War Work. This famous publication lists exactly ninety-eight trades and 1,701 jobs which the government says women can do just as well as men, some of them even better.

The enormous proportions of the great war has caused, like many other calamities, an awakening in the minds of many people. The vast numbers of men in the armies necessitate the presence of a large number of physicians. This condition deprives the civil communities of the services of these physicians. But even the large number already in the service is not nearly enough and every effort is being made to secure more men for work at the immediate front. To furnish these men by relieving them of duties in civil life and in the hospitals of England and France, the women physicians have offered their services. In England and France they have been accepted and women have received commissions from the government similar to those issued to male physicians.

"The story goes that the first woman physician to fit actively into war service was a French woman residing in Paris, who in that fatal August of 1914 received official mobilization orders to report at once for duty. When she appeared, kit and bag in hand, at headquarters the officials were amazed to find that the doctor they had called out as L. A. Lebrum was a woman. "You will have to go back home; no woman is allowed in this service," they told her despite the fact that the wounded were already pouring in, taxing the capacity of the hospital. "But—wait, roll up your sleeves and help us out unofficially today," and now, four years later, she is still at work, only officially now as major, side by side with her men colleagues, having won high honors through expert skill and heavy responsibility. Now there are ten military hospitals on the continent alone, ranging in size from one hundred to six hundred beds, which are fully staffed by women.

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* Read before the Warren County Medical Society, July 22, 1918.

They are in the most important location back from the first line trenches and gravest cases, are being given over to them. Highest tribute is paid them by the director generals of the hospitals of the allied armies as to the high standard of work, low death rate and general hospital administration."

Very similar to the French woman's was the experience of the English woman's entrance when England's pioneer woman doctor, Elizabeth Garrett Anderson, now 80 years old, looked on the glory of Endell Street, London. Here we find a military hospital of six hundred beds, and the surgeon in chief and the commanding officer with the rank of major in the British army is her daughter, Dr. Louisa Garrett Anderson.

The Woman's Hospital Corps, raised and financed by British medical women, was at the beginning offered to the British government, but in the public eye these were only physicians to women and children. Kitchner said he would have none of them for his soldiers. Practically, the war office told them to "run along." Well, they did. They went over the channel. France was in a worse plight than England. In the course of time, rumors reached the British War Office of this soldiers' hospital in Paris run by English women. Oh, well, of course women surgeons might do for French poilus. At length it was learned that British Tommies were falling into their hands and director of the General Medical Council was hurried across to see about it. "Miss Anderson," he addressed the surgeon in charge, "I should like to look over the institution." "Certainly," she acquiesced. Three times he repeated his mistake, and three times she suggested gravely, "Dr. Anderson, if you please." After they had finished rounds he interviewed the soldiers privately and they assured him of their complete satisfaction and the word was out in the trenches that the Woman's Hospital was the place to get if they were wounded. On his return with his report, Kitchner at once decided that these women surgeons were too good to be wasted on France and promptly the country and War Office invited them back to London. And now the British Army Hospital in Endell Street, staffed entirely by women throughout the building, not only head surgeons and physicians, but anesthetists, radiographers, bacteriologists, dentists, pharmacists, sanitary inspectors, nurses, orderlies and ambulance drivers, stands as a monument to their efficiency.

There are today in London five large military hospitals known as the Scottish Women's Hospitals with units in France, Belgium and Serbia, staffed by women. And the British government has become convinced of the fitness of women physicians and surgeons for medical service to such an extent that it is now paying the expenses of women adapted to the study of medicine who cannot afford the necessary cost of medical education. Nowhere is the service of these women more highly colored with peril than the units that went to fight typhus in Serbia, when, in January, 1915, the Austrians had been driven back over the frontier, leaving hundreds of thousands of sick and wounded dying by the roadside in starving, loathsome condition. At Valjevo alone, where the second Serbian unit was established, 70,000 cases of typhus were lying unattended. This unit was later seized as prisoners, but afterward released and sent home. Many of the other Serbian units were allowed to remain and care for large numbers of Serbian wounded prisoners.

Long before our entrance into the war, many of our American women physicians went over for service abroad. Among them Dr. Rosalie S. Morton, who came home with high honors, being decorated by the Serbian government. Dr. Morton was so impressed with the activities of the Scottish Women's Hospital that she determined to form an association along these lines. As a result the American Women's Hospitals, which are even wider in scope than the famous Scottish Women's Hospital, have been organized for service to the army and civil population at home and abroad. At present there are two thousand women physicians registered to do war work at home or abroad. It was through the American Women's Hospitals that the first traveling laboratory was fitted out to go to stricken Serbia where it will be of inestimable value, inasmuch as there are no base hospitals in that country, and the laboratory can follow up the army and do work wherever needed.

The American Women's Hospitals are working constantly in close connection with the Red Cross which sends to them for names and credentials of women physicians for different branches of service. Thus far some sixty odd have been sent out, some to the devastated regions of Serbia, some to care for the old people, babies, mothers and refugee children of France, as well as for wounded soldiers, and the work of civil relief is being almost exclusively put in the hands of women physicians to leave the men free for military service.

These women represent the leading colleges. One of them is in charge of a maternity and children's hospital at Chalons; another is serving in a military hospital under Pershing; a third, Dr. Esther Blair of Pittsburgh, has been held in Paris to report on institutions for defective children; a fourth is making a medical survey of the institutions for refugee children in France, and so the list is extended, but all the work for medical women is not in the allied countries. There is a wide field of usefulness at home: (1) The care of soldiers' dependents, each physician serving in her own locality; the Woman's Hospital of Philadelphia has already begun maternity services to wives of soldiers. (2) Public Health Work; the United States Public Health Service has offered positions to medical women with the same rank and pay as male physicians in this service. (3) Sanitation of munition plants and care of its workers. (4) Examination and care of women in case of accidents in the various large manufacturing and textile plants. (5) Substitution service in American hospitals for the civil population thus releasing men for service at the front. (6) Substitution in private practice. (7) Convalescent hospital in home zone.

In time no doubt our boys will come back to us with acute medical and surgical conditions as well as for rehabilitation. There is abundant work for all and no woman need feel that she is a slacker because she remains in America.

It has come rather late, but resolutions were introduced in the House of Delegates at the recent meeting of the American Medical Association, petitioning the President of the United States, the Secretary of War and the Surgeon-General of the Army and the Navy to authorize the employment of women physicians in the service of the government, providing them with rank and pay of men similarly employed.

SELECTIONS

AN UNPRECEDENTED OPPORTUNITY FOR WOMEN

EMMA WHEAT GILLMORE, M.D.

Chairman Committee of Women Physicians, General Medical Board, Council of National Defense

The same year that gold was discovered in California, a lone pioneer received the first medical diploma which the United States had issued to a woman. Other colleges shortly followed the example of the one which had opened its doors to Elizabeth Blackwell, and today over fifty co-educational medical schools admit women on the same terms as men.

There are more than 25,000 American physicians in military service at this writing, and the Council of National Defense is undertaking, through the Volunteer Medical Service Corps (an organization which has President Wilson's approval), the task of classifying the qualifications of 90,000 more. Of these, about 6,000 are women, less than one third of whom have registered with the General Medical Board.

Women of the profession, unless our qualifications are standardized and on file, can you not see that we are an unknown quality and quantity as far as the Government is concerned? In spite of the overwhelming difference in number (6,000 women and over 100,000 men) and regardless of the fact that over twenty-two centuries have passed since Hippocrates wrote the immortal oath and only sixty-nine years have elapsed since women entered the medical profession, the Volunteer Medical Service Corps has invited them to membership with the same impartial cordiality as it has the men.

During the last week in August application blanks for the Volunteer Medical Service Corps were mailed in franked envelopes to all legally qualified men and women in the United States who were not already in Government Service. Presumably a number of women have been overlooked because many of them are not members of medical societies, but this will speedily be corrected if a notification of the omission is sent to the Volunteer Medical Service Corps, Council of National Defense, Washington, D. C.

Meanwhile, medical women who possess a vision will see in the Volunteer Medical Service Corps an incomparable method of organization which will register their qualifications and place them in an identical coded class system with men physicians. This Corps is in reality an ideal procedure for mobilizing the military forces of our country for selective medical war service. Incidentally it will place loyal and patriotic medical women by the side of those men who are willing to give themselves. Even though all of them are not elected to membership, their names will be on file with the Government as willing to serve as far as their strength and capability will permit, and no one can point a finger at them and say "slacker."

Will a page be turned over in the history of American medical women on which will be written the qualifications of 6,000 of them, matching that group of English physicians known as the Scottish Women's Hospitals, which was so perfectly organized that they were able to hand over to their government a constructively organized body of professional women for military service? Or shall we continue, as we have done in sporadic groups for the past sixty-nine years, to demand recognition of men and at the same time neglect to unanimously affiliate with them in recognized medical societies, and to withhold our influence both with pen and vote when medico-social and medico-political and medico-scientific issues are at stake which shake the very foundation on which medicine rests?

The body politic of the civilized world holds a prominent place for the profession of medicine in the near future. Are we to have a hand in shaping it? The Volunteer Medical Service Corps is big with promise for women of the medical profession if we take advantage of it to put ourselves on record. The response which the Council of National Defense receives from women who apply for membership will tell the tale as to whether they have or have not grasped and taken advantage of the unprecedented opportunity which this world's war for democracy has opened up for them through the medium of the Volunteer Medical Service Corps.

PROTECTION OF AMERICAN ARMY AGAINST SOCIAL DISEASES BY MORE RIGID HEALTH LAWS*

MAJOR VICTOR C. VAUGHAN

We are living in a momentous time. The old world, the one in which you and I have lived hithero, is dying. Its funeral rites are being celebrated in Europe in a most tragic way. A new world is being born. Those of us who are optimists hope that the new world is going to be better than the old. It is a conflict between evil and good. But we make a sad mistake if we think that all the evil lies in our enemies and all the good in ourselves.

A short time before the war I went to Berlin, and early the next morning I hastened over to the laboratory of a great German scientist. He was busy perfecting a test which both our allies and our enemies are now using in the scientific diagnosis of syphilis. In his enthusiasm he spent the whole morning and far into the afternoon in initiating me into the tests that he was making, and he said: "You can go back to America and carry this method of diagnosis." Along about the middle of the afternoon he looked at his watch, surprised at the way time had flown, and he said: "We must have some lunch; come and go to my house." And we walked down through Berlin and we came to the great barracks and, stopping, he said: "Do you know what these buildings are?" I said, "Yes; those are the barracks." Then he said, "Fifty thousand soldiers are quartered in Berlin and a proportionate number in every city in the empire, and I fear that the time will come when the militarism of Germany will endanger the peace of the world and possibly wreck the empire."

That is what Professor Wassermann said to me before the war began. So we must not think that all the good lies in us nor all the evil lies in our enemies. If this war is finished, as it must be finished, with victory for us, and if we fail to be better on account of this war, then it will be a defeat for us as well as our enemies. If all this sacrifice does not lead to the betterment of the world, then certainly there can be but little optimism left.

One of the great sources of degradation lies in venereal diseases. The venereal diseases were not known until the discovery of America. Columbus and his sailors carried back the glad news of the discovery of vast continents; but they carried back also the most loathsome of human diseases—syphilis. It was rapidly spread by the soldiers in the invasion of Charles through Italy; it was known first as the Spanish disease, then the Italian disease, then the French disease, etc., every nation attempting to cast the opprobrium for this dreadful disease on some other nation.

Now, this question is an acute one just now, because it affects our Army. Many mothers have hesitated to allow their sons to go into the Army because there is a general impression that Army men are more prone to sexual vices than men in civil life. I have before me here a chart showing admissions for venereal diseases in the National Army—the drafted men, the select men, if you prefer to call them such—the National Guard, and the Regular Army. The green line shows the admissions in the National Army, the red line shows admissions in the National Guard, and the purple line shows admissions in the Regular Army. You can see that with the first assembling of the National Army there was an overwhelming influx of venereal diseases into the Army. I want to caution you that this has to be taken with some allowance. These mean weekly admissions. Of course, many of these men who came into the National Army had had these venereal diseases for months, and they were lumped in that one week. However, it is certainly safe to say that there is a greater prevalence of venereal disease among young men from 21 to 31 years of age in civil life than there is in the Army of the United States.

So dismiss every idea that men in the Army are more likely to have venereal disease than those in civil life. The regulations of the Army require that instructions shall be given to all men concerning venereal disease. Not only is that true, but a man who has a venereal disease is punished—his pay is docked and he is not allowed to go out of camp while he has the venereal disease. In other words, he is quarantined against the civilian population. The civilian population is protected against the Army; the Army is not protected against the civilian population. And in general we may say that that is true. The Army needs protection against the civilian population.

Now, how best to do it? In a general way I quite agree with everything that has been said concerning the value of education along this line. There is one mistake, I think, that is made in talking with boys and young men concerning venereal disease. A boy, the average boy, isn't led to do the right thing by threats, nor by holding up to him possible dangers. It is likely to lead him just the other way.

Now I must make this just as brief as possible. How can the thing be lessened? When Congress passed the draft law it did everything, it seems to me, that law can do to prevent infection of the soldiers by venereal disease. This was incorporated in the draft law, and still we know that the intention, the letter of that law, is not obeyed, especially in some parts of the country. The prevalence of venereal diseases in different camps and cantonments varies very greatly. I want to call your attention to some of these figures. It will be rather striking, I think, to show you the difference in the prevalence of venereal diseases in different camps and cantonments. I can't go into all of this, but I shall give you some very striking illustrations.

Taking the National Guard, the camps that have the larger percentage of venereal diseases, Camp Logan, Houston, Texas; Camp Bowie, Fort Worth, Texas; Camp Wheeler, Macon, Ga.; Camp Shelby, Hattiesburg, Miss.; Camp McClellan, Anniston, Ala. In the National Army, Camp Pike, Little Rock, Ark., has 586.7 per thousand—figured out annually, of course—the most by far of any camp or cantonment in the United States. Then comes Camp Dix, Wrightstown, N. J.; Camp Dodge, Des Moines, Iowa; Camp Travis, San Antonio, Texas; Camp Jackson, Columbia, S. C. I am giving you these figures simply to show you that there is not proper cooperation between the military and the civilian authorities at certain places. How can it be bettered? That is the question, and I think that what I am to say on this point is true of other diseases just as well as of the venereal diseases.

It will be absolutely impossible to reduce any disease to a minimum in the Army so long as we neglect these same diseases in the civilian population, and if the man in the Army is quarantined while he is infectious, why shouldn't the woman in civil life be quarantined while she is infectious? Equal punishment to both—I believe in that. It must follow, from the figures that I have given you, that the local authorities, the health authorities at these places especially, are not cooperating and are not protecting the Army against infection with venereal disease.

Another thing: The provisions of the law say that venereal diseases, or the chances of getting venereal disease, must not exist in the zone about the camp. What is the zone about the camp? What is it? Go to any one of these and keep your eyes open, and how far does the zone exist? Is it 5 miles around Camp

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* Address delivered before the American Social Hygiene Association, Washington, D. C., on Jan. 31, 1918.

Meade? No! Baltimore, Washington and Philadelphia. Go to Camp Beauregard in northern Louisiana. Is the zone of infection included in a circle 5 miles from the commanding officer's tent? No! It goes to Alexandria, goes to Shreveport, it goes to New Orleans. The zone around our fifty-four posts, camps and cantonments in the United States is from the Atlantic to the Pacific and from Canada to the Gulf of Mexico. And the same treatment, the same provision, should be made all over the country.

Understand me. I agree with what General Gorgas has said, that the percentage of venereal disease is low, that there is no army in the world with so little venereal disease; but that is not the point altogether. That is a part of it. Has it been reduced to the lowest minimum possible? Can we reduce it still further? There is no wall between the Army and the civilian population. Now, this is just as true of pneumonia, meningitis and scarlet fever, as it is of the venereal disease; there is no wall between the two. The difference existing between the military population of this country today and the civilian is one of fluidity, and not of solidarity; and what we need is a centralized health department in some way or other. We should not think of anything less than that.—*The Official Bulletin.*

OUR NATIONAL OPTIMISM, ITS VALUE AND ITS DANGERS

Peace Not Within Our View Despite Military Gains in France

BY WILLIAM HOWARD TAFT

We are a people of imagination. We are a people of energy. We are a people of self-confidence. We are youthful. We look forward. We form high ideals and we believe we can reach them.

Since we have entered this war we have had no doubt that we could win. As the stake we and the world have in it has made itself clearer through German greed of power, German brutality and German duplicity, our confidence that we can win has been strengthened by the fact that we must win. This fundamental belief in our capacity and power is one of the great elements of our strength. It furnishes a resiliency after disaster and disappointment and secures quick recovery and renewed attack.

On the other hand, it sometimes produces superficial thoughtless optimism which obscures clarity of vision as to the amount of preparation needed to achieve the great task to which we have set our hands. We eagerly accepted a prophecy that on the 1st of July last, we would have five or six thousand flying machines with which to overwhelm the Germans and were humilitated by having not one hundred to our credit. The dash and courage of our boys in comparatively small engagements were dwelt on in our cable dispatches with such detail and emphasis as to be out of proportion to their importance in the general struggle and to mislead the public as to their real significance. They were important in showing the exceptional quality of American troops and their excellence of training, but they did not indicate that the battle on the western front had been won or the offensive stopped.

Now that their numbers are really telling, we begin to have a sense of proportion as to the part that we are playing in stopping the German offensive in the Rheims-Soissons salient. Our triumphant satisfaction in this, however, may have a dangerous weight in encouraging the thought that we are near a breaking up of German power and a winning of the victory we seek. Undoubtedly, it will be a great embarrassment to the Kaiser and his Prussian military party to have that offensive which he promised to the German people would end the war result in a deadlock.

He will have a great deal to explain to his people. They are suffering greatly from the losses of war and its privations. Food restrictions are growing heavier, but the German people are taught to kiss the rod that rules them. This is in their grain. As long as the German army does not disintegrate or mutiny, the Kaiser will hold his throne and fight for it. The power that Germany wields with her army on the western front and the rich resources in food and oil and metals and men that Russia offers for the future make the task of beating Germany as great as ever.

We must avoid as a national calamity the lodgment in the minds of any considerable part of our people of the idea that this victory in holding the Germans in the Rheims-Soissons salient brings peace within our view. It is only the beginning of a long, hard fight, a fight for which, if we are wise in this country, we should be now making adequate preparation.

We need a great army—an army that cannot be raised under the present draft law out of the proper Class No. 1. The first calculations as to the eligibles under Class No. 1 and under the amendment drafting those who have become 21 since May, 1917, have not been borne out by actual results. The draft law should be amended, and amended at once, and definite preparation should now be made for a much larger army then the present law will furnish, estimated only at 3,850,000 men by next January.

Our national policy should be the immediate raising of an army of such numbers that its preparations, equipment and landing in Europe will blazon to the world that defeat to the Germans is inevitable. We should make our preparation, as far as we can, *en bloc*. This more than anything else will break down the morale of our foe and possibly make the use of all of such an army unnecessary. If American optimism should halt our preparation into piecemeal efforts so that we raise our army only in instalments, having on hand at one time an insufficient force to win, then the war will be long drawn out. It will cost vastly more in lives and treasure, and the achievement of our purpose will be rendered much more doubtful. Preparation for victory should be laid down. It means economy in lives and money cost and a quicker relief to this war-weary world.

A greater danger than a long-drawn-out war may confront us from a lack of immediate preparation in full. If Germany is brought to a deadlock again on the western front, and then offers peace without annexations and indemnities on the western front, restoring Belgium, giving Alsace-Lorraine to France and the Trentino and Trieste to Italy, and retaining her control of Russia, the offer will be most tempting to some of our Allies, if we have not then shown by our plan of action already begun preparations adequate to secure a just peace dictated on German soil. —*Public Ledger*, July 25, 1918.

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THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

WALTER F DONALDSON, M.D., SECRETARY, 8103 Jenkins Arcade Building, Pittsburgh, Pa.

OUR OFFICERS

President Frederick L. Van Sickle of Lackawanna County brings to this office the ripe experience of many years' service in the House of Delegates and six years on the Board of Trustees. His administration will add to the luster of his record and enhance his future value to our society.

President-elect Cyrus Lee Stevens of Bradford County has just completed twenty-one years' arduous labor as secretary of our state society. He has of course during that time been in closest touch with every development and activity of the society and will in 1919-1920 give us the best year of his association with the state society. Dr. Stevens has consented to continue as editor of THE PENNSYLVANIA MEDICAL JOURNAL for the coming year.

Treasurer George W. Wagoner of Cambria County will add another year to his sixteen years of faithful service, and the experience Dr. Wagoner has gained as a delegate and as a trustee for years, also as president in 1908, will continue to be at the service of the society.

INCREASED MEMBERSHIP

Several of our component county societies show increasing membership during recent months. Young men upon finishing hospital duties may go immediately into the Medical Corps of the Army. Men, however, who have for years practiced their profession, but have not affiliated themselves with the county medical society, do not have such smooth sailing. Uncle Sam gives due consideration to such connection, and candidates for commissions in the Medical Corps or membership in the Volunteer Medical Service Corps have come to appreciate the value of recognized association with us. Once in active service they appreciate possible benefits from our organized help in maintaining intact their practices and our help in sustaining their dependents.

Organization is the most potent influence in economics today. We shall flourish as we nourish our membership.

REMITTANCE OF DUES

More than two thousand of our nearly seven thousand members are absent and in our country's service. Until the time of induction into such honored service each of these members contributed his financial share—$2.75 annually—to the support our state society. He therefore contributed his share to our Medical Defense Fund, amounting now to over $7,000; his share to our Endowment Fund, amounting now to over $7,000, and his share to our Medical Benevolence Fund, amounting now to over $10,000. Granted that some of us are shortsighted enough to permit our medical journal to slip, our committee activities to atrophy—are we going to stunt the growth of our Benevolent Fund? God grant that none of us may ever need its blessings, but if one of our army members should one day need it and find it wanting because you or I refused to support it while he fought for us, could we face him? Let us admit that on sober second thought we regret our apparent defection in 1918, but that in 1919 we demand the privilege of paying our absent members' dues.

The following county societies remitted the 1918 dues of their members in the service, but voluntarily paid to the state society the *per capita* assessment for these members: Clearfield, Indiana, Jefferson and Montgomery.

The fraternal and "animal" lodges require no dues from their members in the service. Shall we be outdone? No; future members of this society shall not be allowed to read of the decline of our society and attribute it to us.

HUNNISH PROPAGANDA

Mrs. Lay Woman: What are the people who remain at home going to do for medical attention during the war?

Dr. Fuller Prunes: I'm sure I don't know, but I fear that many will suffer or perhaps die from neglect.

Reply to same query by Dr. Fuller Pepp: Have no fear; sufficient physicians will remain or be distributed to care for every one. We take pride in our doubled duties and our ability to deliver.

What false rumor can more devilishly undermine the morale of the home people and reflexly of our boys in Europe than impressive stories of a lack of physicians. Let us all make it an added pleasure to give the lie to such statements by word of mouth, and especially by redoubled efforts in our line of duty. During the last few weeks public opinion has been expressing appreciation of our task and the manner in which we are meeting it.

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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POTTER—Elwin H. Ashcraft, M.D., Coudersport.
SCHUYLKILL—George R. S. Corson, M.D., Pottsville.
SNYDER—Percy E. Whiffen, M.D., McClure.
SOMERSET—H. Clay McKinley, M.D., Meyersdale.
SULLIVAN—Theodore Wright, M.D., Dushore.
SUSQUEHANNA—Dever J. Peck, M.D., Susquehanna.
TIOGA—John R. Davies, M.D., Blossburg.
UNION—William E. Metzger, M.D., Alvira.
VENANGO—J. Irwin Zerbe, M.D., Franklin.
WARREN—Ira A. Darling, M.D., Warren.
WASHINGTON—Frank Iams Patterson, M.D., Washington.
WAYNE—Sarah Allen Bang, M.D., South Canaan.
WESTMORELAND—Louis F. Wilson, M.D., Greensburg.
WYOMING—Herbert L. McKown, M.D., Tunkhannock.
YORK—Homer D. Baird, M.D., York.

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

ATHENS, PA., OCTOBER, 1918

PRESIDENT VAN SICKLE

Dr. Frederick L. Van Sickle, president of the Medical Society of the State of Pennsylvania, needs no introduction to those who attend the annual sessions of the society nor to those who read its journal. To those who are not familiar with his life work we may say that first, last and all the time he is a firm believer in medical organization.

He was born during the Civil War; educated in Binghampton (N. Y.) high school, and Keystone Academy (Pa.), in academic course, and was graduated from the Jefferson Medical College, Philadelphia, April 2, 1886.

At the passage of the law introducing boards of health in boroughs and cities of the third class, he became the first health officer of the town in which he resided. He was instrumental in organizing the Associated Boards of Health in Lackawanna County, which cooperated with the then state board of health, and the associated health authorities of the state of Pennsylvania. He assisted in organizing and building a hospital in the anthracite coal fields in the Mid-Valley District, which has proven of great benefit to the mine workers and the civilian population in his home county. He is a faithful, consistent worker in the Lackawanna County Medical Society, of which he has been treasurer, president, and is at present a trustee.

He was a faithful and efficient trustee of the Medical Society of the State of Pennsylvania from 1911 to 1917, and much of the financial reconstruction of the society may be credited to his suggestions. He is probably best known to many of the members of the profession of the state as having done considerable work along the lines of industrial insurance, especially as it relates to the Workmen's Compensation Act. He is a hard worker, a faithful, consistent member of the medical fraternity, and has shown an example which should be emulated by every member of the profession. The society is fortunate in having a man like

Dr. Van Sickle for president, especially during these times when the interests of the society require one whose heart is so thoroughly in the medical organization.

OUR NEW SECRETARY

Having had peaceful possession of the office of secretary of the Medical Society of the State of Pennsylvania for twenty-one years I thought it wise to decline a reelection this year lest it might be thought that I intended to claim a life lease on the office.

The new secretary who was unanimously elected is the retiring president, Dr. Walter F. Donaldson of Pittsburgh, who is the son of the late Dr. John B. Donaldson of Canonsburg, the first county secretary to publish a society bulletin. It is no disparagement to the many good county secretaries to say that I do not remember any one who was a better secretary all in all than the elder Dr. Donaldson. Let us hope that the younger man will make the best secretary the state society has ever had. I wish to express my sincere thanks to the officers and members of the several county societies for their many courtesies during the years I have served as secretary and for kindnesses during the Philadelphia Session. May I bespeak for my successor the courteous and hearty cooperation ever extended to me.

All communications pertaining to the Medical Society of the State of Pennsylvania in any of its departments, excepting the Pennsylvania Medical Journal, should be addressed to Dr. Walter F. Donaldson, Secretary, 8103 Jenkins Arcade Building, Pittsburgh, Pa. All correspondence relating to the Journal of the society should be addressed as heretofore to Athens, Pa.

C. L. Stevens, Editor.

IMPRESSIONS OF THE SIXTY-EIGHTH ANNUAL SESSION, PHILADELPHIA

The Medical Society of the State of Pennsylvania still lives, despite the inroads made upon its membership during the wearisome times caused by war; and the session held this year has been far better than was anticipated by the members of the society. The scientific papers were good; the discussions were to the point; and from the standpoint of an educational institution, this session has proved the equal of any other that we have had.

While war conditions kept some of the familiar faces from appearing at the meetings of the sections, there was nevertheless a spirit of thorough cooperation and endeavor to upbuild organized medicine in the state, and to "keep the home fires burning" for the boys who are "over there." Moreover, the exhibits far exceeded those at any other state meeting held during the past year. We feel that the plans under consideration for the future welfare of this society will bring brighter prospects for organized medicine in the state.

Another echo from this session inspires the thought that many of the leaders of the profession might, by their presence at these meetings, aid in impressing upon the younger men of the profession the fact that their seniors have not retired from the field of active duty, thus giving an added impetus to them to attend the annual sessions and increasing the benefits derived from closer relationships between all branches of medicine. Take it all in all, this session has far exceeded the brightest expectations of all of us.

F. L. V. S.

THE COMMERCIAL EXHIBIT

More than once we have called the attention of the visiting physicians to the value of the commercial exhibit that annually appears at our society meetings, and it is now repeated to emphasize the matter. That this exhibit is not wholly commercial is evident, for the educational side of it is great, as it brings to the attention of the physician removed from the larger cities the very latest in literature, therapeutics and technic and for this reason alone it is worth careful consideration.

This year we found the exhibits more restricted than usual—and what is not restricted in these strenuous times? At more than usual expense and labor the exhibitors got together on a scale most commendable such of their wares as were most likely to interest and instruct those who were present and the result should be beneficial both to themselves and to the members generally.

Those who compare prices will note a general advance over former years all along the line; skilled labor, materials and rentals have all advanced abnormally in market value, and this advance is necessarily passed along to the finished product, and eventually to the consumer. This prevails not alone with physicians' supplies, but is general in every line of commodities and necessities. Those in need of replenishing their stock should not delay longer in doing so, as in all probability the coming year will see still further advances in prices generally for all kinds of materials. In truth it can be predicted that certain supplies will be entirely removed from the market and therefore unobtainable; this will apply to some chemicals and to compounds thereof.

This year the exhibits had exceptional location, being situated in the corridors of the second floor of the Bellevue-Stratford, and contiguous to the sections and to the bureau of registration; with good light, ample space in which to show their wares and talk to visitors, the exhibitors were sure of an audience at all times. As to the exhibits themselves, they were all good and comprised various instruments, drugs, appliances, apparel, books, foods and serums; they were attractively arranged and were apparently of much interest to all who saw them.

It is a regret that the number of exhibits were necessarily curtailed, but those shown made up in quality for the larger number usually shown, and incidently in a greater amount of attention, which should ultimately work to the advantage of those present.

It was gratifying to note the optimism among the exhibitors themselves, as, almost to a man, they expressed themselves as abundantly satisfied with the attention they commanded from the members, and anticipated that they would be amply repaid for their effort. Let us hope that the members will be equally rewarded for interest. C. B. L.

THE CONFERENCE OF SECRETARIES

The Thirteenth Annual Conference of Secretaries of the Medical Society of the State of Pennsylvania was a most excellent affair. The attendance was large. From beginning to end the subjects presented were very instructive, attractive, and closely held the attention of everyone, and all present were unanimous in feeling the intensive quality and high class of instruction brought out in the conference. All the papers furnished nourishing food for thought, and the only regret was that the time allotted for the conference was so short.

Without attempting to discuss any of the papers, special mention should be made of the paper presented by Dr. Floyd M. Crandall, secretary of the Medical Society of the State of New York. This thorough, earnest, methodical and enthusiastic worker furnished delight to all. None the less interesting were the papers by Drs. William T. Sharpless and John M. Quigley. "County Society Dues and the Per Capita Assessment" was ably presented by Dr. William H. Mayer, Lieut. Jesse L. Lenker, M. R. C., and Dr. Jay B. F. Wyant, trustee. "Health Insurance" by Dr. John B. McAlister, member of the commission appointed by the last Legislature to investigate health insurance and report to the 1919 Legislature, should be studied by every physician in the state. The addresses by Retiring President Walter F. Donaldson and President Frederick L. Van Sickle were full of thought, obtained by careful study of the subject of health insurance. I. J. M.

TAKING YOUR OWN MEDICINE

The physician becomes so accustomed to giving orders that he forgets how difficult it sometimes is for a patient to follow the directions of his physician. It is well for a practiser to have this fact brought forcibly to his attention occasionally in order that he may give his orders with the needed consideration and courtesy.

The opening of the Philadelphia Session found the editor struggling with what proved to be an attack of influenza. On Tuesday noon he was ordered to bed by his friends and on Wednesday morning sent to the University Hospital where he received every attention and courtesy possible from the staff of physicians and nurses, from Dr. Fussell with "his smile" down to the probationary nurse who brought the bountiful and appetizing meals.

Keep well if you can, but if you get sick and have not proper home accommodations or if away from home, go to a hospital and even if you are a physician be a good sport and forget that you are a medical man.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported up to September 20:

Allegheny County: *New Members*—Joseph H. Barach, Jesse S. DeMuth, Abraham Finkelpearl, Louis C. Fulton, Henry J. Giles, William A. Jones, Alfred F. Kamens, Bernard J. McCormick, John F. McCullough, George J. McKee, Pittsburgh; J. Donald Iams, Sheridanville; Thomas R. Kerr, Oakmont; Orien F. Konantz, Los Angeles, Calif.; Samuel F. McComb, Tarentum; James I. McLallen, M. M. Waller, Wilkinsburg; Charles C. Rinard, Homestead; Louis G. Rubenstein, Braddock. *Removals*—Richard E. Brenneman from Pittsburgh to Walter Reed Hospital, Washington, D. C.; Louis Lasday from Hazelwood to

3422 E. Ridgway Ave., Cincinnati, Ohio; Richard E. Poole from Puente, Calif., to Mayer, Ariz.; Lester Hollander from East Pittsburgh to 1401 N. St. Clair St., Pittsburgh; Frank L. Morrow from Braddock to 49 Prospect Ave., Pittsburgh.

Armstrong County: *New Member*—Jesse H. King, Worthington.

Beaver County: *New Members*—J. A. Collins, Beaver; Kate M. Taggart Schley, Beaver Falls.

Bedford County: *New Members*—L. R. Myers, Everett; T. Sheldon Taylor, Schellburg.

Berks County: *New Member*—Abram K. Wanner, Reading.

Butler County: *Removal*—Arthur E. Whittaker from Zelienople to 309 Spring Ave., Ellwood City (Lawrence County).

Cambria County: *New Members*—Seward R. Davison, J. Swan Taylor, Johnstown; James A. Lynch, Cresson; George I. Yearick, Portage.

Center County: *Removal*—William U. Irwin from Fleming to Bellefonte.

Clarion County: *New Member*—Wilbur S. Wallace, East Brady.

Clinton County: *Removal*—Loyal L. Liken from Flemington to Bitumen.

Columbia County: *New Members*—George A. Shuman, Catawissa; James K. Wagenseller, Bloomsburg.

Crawford County: *Removals*—Winters D. Hamaker from Meadville to 667 Carondolet St., Los Angeles, Calif.; Harry C. Winslow from Meadville to 1011 Thirteenth St., Alexandria, La.

Delaware County: *Death*—Daniel W. Jefferis (University of Pennsylvania, '65) in Chester, September 1, from heart disease, aged 76.

Fayette County: *Removal*—George H. Griffin from Uniontown to 228 Otterman St., Greensburg (Westmoreland County).

Lackawanna County: *New Member*—Frank J. Budd, Los Angeles, Calif.

Lancaster County: *New Members*—Chester F. Markel, Columbia; John L. Winters, Blue Ball. *Removals*—Evans D. Russell from Reamstown to 611 Fourth St., Ocean City, N. J.; Charles C. Spangler from Lancaster to 311 North Queen St., York (York County).

Lehigh County: *New Member*—William A. Riegel, Catasauqua.

Luzerne County: *Death*—James MacKellar (Medico-Chirurgical Coll., Philadelphia, '91) of Hazleton, in Philadelphia, August 31, aged 54.

Mercer County: *New Members*—Emma Hodge-Worrall, Pulaski (Lawrence County); Harry A. Whyte, Farrell (by transfer from Washington County Society).

Montgomery County: *New Member*—Albert R. Garner, Norristown. *Death*—Charles H. Mann (Jefferson Medical College, 74) in Bridgeport, August 3, aged 66. *Removal*—William B. Jameson from Jenkintown to Mont Alto (Franklin County).

Montour County: *New Member*—George A. Stock, Webb City, Mo.

Northumberland County: *New Members*—John W. McDonnell, Sunbury; Clarence M. Malone, Shamokin.

Philadelphia County: *New Members*—Mark T. Booye, Samuel Bruck, John E. Brunet, Dorothy Child, Florence C. Child, Cunningham P. Clark, Edward V. Clark, Frank M. Coyne, A. Henriques DeYoung, John F. Gorman, George B. Gray, J. W. McConnell, William F. Monaghan, John H. Mudgett, Norman S. Rothschild, Oliver E. Snodgrass, Mervyn R. Taylor, Benjamin Ulanski, Marnetta E. Vogt, Edward F. Walsh, Sr., Philadelphia; Arthur A. Collins, Oxford (Chester County); Kenneth S. Guthrie, New York City. *Deaths*—Charles Joseph Valentine Fries (Hahnemann Med. Coll., Philadelphia, '94) at Cape May (N. J.) Naval Station, August 30, from cerebral hemorrhage, aged 54; William Houston Greene (Jefferson Medical College, '73) of Philadelphia, in Wenonah, N. J., August 8, from heart disease, aged 64. *Removal*—Thomas C. Davis from Philadelphia to 78 S. Sixth Ave., Coatesville (Chester County).

Potter County: *Death*—Joseph B. Colcord (Coll. of Phys. and Surg., Baltimore, '85) of Port Allegany (McKean County) in Buffalo, N. Y., August 7, after a surgical operation, aged 56.

Schuylkill County: *New Member*—Robert M. Wolfe, Port Carbon.

Tioga County: *New Member*—Lloyd Gamble Cole, Blossburg. *Death*—Arthur M. Greenfield (Baltimore Med. Coll., '92) in Westfield, July 27, from acute dilatation of the heart, aged 60.

Venango County: *New Member*—William Russell Jobson, Oil City.

Washington County: *New Member*—John C. Kelso, Canonsburg. *Transfer*—Harry A. Whyte to Mercer County Society. *Removal*—Roger S. Parry from Washington to 213 E. Main St., Waynesburg (Greene County).

Wayne County: *New Member*—Edward B. Gavitte, Wilmerding (Allegheny County).

Westmoreland County: *New Member*—John L. Marchand, Prinzapolka, Nicaragua, Central America.

PAYMENT OF PER CAPITA ASSESSMENT

The *per capita* assessment for the year 1916 has been received from component county societies since March 1, 1917, as acknowledged on page 446 of the March, 1917, Journal, as follows:

1918				
8/24	Clarion	32	6730	$2.75

The *per capita* assessment for the year 1917 has been received from component county societies since February 14, as acknowledged on page 403 of the March Journal, as follows:

1918				
8/24	Clarion	35	6917	$2.75

The *per capita* assessment for the year 1918 has been received from component county societies since July 25, as acknowledged on page 711 of the August Journal, as follows:

1918				
8/ 7	Fayette	120–125	6740–6745	$16.50
8/ 8	Somerset	45	6746	2.75
8/13	Luzerne	199	6747	2.75
8/19	Schuylkill	106	6748	2.75
8/22	Bucks	87	6749	2.75
8/24	Lackawanna	40		
	(See February 14, previously remitted, now paid)			2.75
	Clarion	38	6750	2.75
	Bedford	27–28	6751–6752	5.50
8/26	Allegheny	1072–1075, 1077–1078	6753–6758	16.50
	Allegheny	1076*	6759	
	Washington	107	6760	2.75

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* Dues remitted.

8/27	Philadelphia	1771–1792	6761–6782	60.50
	Philadelphia	1793–1797*	6783–6787	
8/28	Schuylkill	105	6788	2.75
8/29	Beaver	68–69	6789–6790	5.50
8/30	Allegheny	1080	6791	2.75
9/ 3	Westmoreland	151	6792	2.75
9/ 4	Allegheny	1081	6793	2.75
	Columbia	47*	6794	
9/ 5	Mercer		6795	2.75
	Lackawanna	194	6796	2.75
9/ 6	Allegheny	1082–1083	6797–6798	5.50
9/ 9	Columbia	48*	6799	
	Lancaster	135	6800	2.75
9/12	Berks	116*	6801	
	Cambria	106–109	6802–6805	11.00
9/13	Northumberland	59–60	6806–6807	5.50
	Montgomery	136	6808	2.75
9/14	Allegheny	1037, 1087–1088 1091, 1094	6809–6813	13.75
	Allegheny	1092–1093*	6814–6815	
	Tioga	35	6816	2.75
9/17	Wayne	35	6817	2.75
	Lancaster	136	6818	2.75
9/18	Montour	20	6819	2.75
	Armstrong	63	6820	2.75
9/19	Venango		6821	2.75
9/20	Lehigh	98	6822	2.75

STATE NEWS ITEMS

MARRIED

Dr. John Harrison Alexander, Pittsburgh, and Miss Marie Christine Myers, Rockford, Ill., July 10.

Dr. Thomas Hudson Harter and Miss Margaretta Laurine Wahl, both of East Brady, June 19.

Dr. Samuel Harold Boyd and Miss Bessie Mae Dutton, both of Philadelphia, July 16.

Dr. Leo Gerald Flannery, Philadelphia, and Miss Anna F. Sheehan, Chestnut Hill, July 29.

DIED

Dr. J. Edwards Loughridge (Univ. of Pennsylvania, '14) in Philadelphia, July 19, aged 31.

Dr. Thomas Kennedy (Coll. of Phys. and Surg., Keokuk, Iowa, '74) in Bermudian, recently.

Dr. Edward Henry Stevens (New York Univ., New York City, '88) in Athens, August 12, from nephritis, aged 51.

Dr. Thomas A. Bair (Jefferson Med. Coll., '70) in Sabinsville, June 14, from cerebral hemorrhage, aged 70.

Dr. Isaac Van Deusen (Chicago Homeopathic Med. Coll., '85) in Philadelphia, August 9, aged 89.

Dr. David Townsend McKinney (Univ. of Louisville, Ky., '98) in Pittsburgh, July 9, from angina pectoris, aged 43.

Dr. Ferdinand Lessing (Univ. of Pennsylvania, '69) in Philadelphia, July 10, aged 81.

Dr. John Shields McGinness (Univ. of Pennsylvania, '64) in Lock Haven, August 8, from heart disease, aged 77.

Dr. Ruth A. Young (Woman's Med. Coll. of Pennsylvania, Philadelphia, '18) in Philadelphia, July 20, after a surgical operation, aged 32.

Dr. George Calder (Eclectic Med. Coll. of Pennsylvania, Philadelphia, '70) of Claysville, in Washington, July 27, aged 83.

Dr. William Joline Martin (Hahnemann Med. Coll., Philadelphia, '99) of Wilkinsburg, on duty with the British forces, in Liverpool, England, July 28, from pneumonia, aged 40.

Dr. Rebecca Moore (Woman's Med. Coll. of Pennsylvania, Philadelphia, '83) in Kennett Square, August 27, aged 83.

Dr. Russell Alexander Reid (Jefferson Med. Coll., '01) in Zelienople, August 27, aged 40.

ITEMS

Armstrong County Medical Society claims as a member every eligible physician in the county.

The Ellwood City Hospital, on August 12, dedicated its new home, which cost upwards of $35,000.

The Babies' Hospital of Philadelphia has contracted for the erection of a five-story building, 40 by 80 feet.

President Walter F. Donaldson addressed the Crawford County Medical Society at Meadville, August 21.

The Carlisle Indian School property at Carlisle will be taken over by the government for hospital purposes, it is announced.

The York County Medical Society Bulletin in its August and September issues, gives a black eye to compulsory health insurance.

Philadelphia Fills Nurses' Quota.—Philadelphia was asked for 440 nurses for civilian hospitals and 450 Philadelphia women responded.

The State Department of Health, through its 115 local dispensaries, will treat the cases of tuberculosis among the rejected draftees.

Bethlehem Physicians have purchased the Weiss property on East Broad Street, for $26,500, and will alter the residence for hospital purposes.

Dr. George A. Stock, a member of the Montour County Medical Society, is now superintendent of the Jasper County Tuberculosis Hospital at Webb City, Mo.

The Fifteenth Annual Meeting of the Seventeenth Censorial District was held at Bloomsburg, September 5, with a most interesting and valuable program.

Dr. Charles J. Hatfield, who has served for the last four years as executive secretary of the National Tuberculosis Association, has been made managing director.

Dr. Luther C. Peter, Philadelphia, was elected secretary of the American Academy of Ophthalmology and Oto-Laryngology at its meeting in Denver, August 5 and 6.

The National Tuberculosis Association will hold a conference in Pittsburgh, October 17 and 18, to consider practical measures for coping with tuberculosis as a war problem.

H. E. Neumer, once assistant superintendent of the Pennsylvania Hospital at Philadelphia, has lately taken up the duties of superintendent at St. Luke's Hospital, Bethlehem.

The Blair County Medical Society in session, June 25, with twenty-six members present, unanimously agreed to eliminate Sunday office hours except by appointment.

Dr. Walter F. Donaldson, Pittsburgh, has been elected treasurer and also director of the Allegheny County Medical Society to fill the unexpired term of Dr. William C. Bryant who has entered the service.

Crawford County in the Lead.—"Twenty-eight and one-half per cent. of Crawford County's physicians have enlisted. Fifty per cent. of the Meadville physicians are in active service."—*Crawford County Bulletin*, August.

A Campaign Against Tuberculosis has opened for the education of negroes in Philadelphia. The work is under the direction of physicians and nurses cooperating with the Philadelphia Tuberculosis Community Committee.

Miss Elizabeth Donet, for the last four years superintendent of the Memorial Hospital, Greensburg, reported to Red Cross headquarters in New York early in August for foreign service, expecting to sail immediately.

Dr. Wilmer Krusen, director of Public Health and Charities, Philadelphia, was refused an appointment in the Medical Reserve Corps because the government considers his services more valuable in Philadelphia's war work.

Dr. Jay Frank Schamberg, professor of Dermatology and Syphilology at Jefferson Medical College, delivered an address, "Medicine—Then and Now," to the students at the opening of the ninety-fourth annual session, September 23.

The Pennsylvania Hospital, Philadelphia, has lost 75 per cent. of its medical and surgical staff for war service, not to mention employees in other departments, and now issues a call to patriotic men and women to volunteer for service.

Red Cross Seal Honor Roll for 1917.—The following Pennsylvania towns were awarded certificates of commendation for the purchase of six or more 1917 Red Cross seals per inhabitant: Ben Avon, Frackville, Greensburg, Homestead, Munhall, Oakmont, Pinegrove, Sewickley, Thornburg.

Pennsylvania Dental Colleges for Army Training.—Evans Dental Institute, University of Pennsylvania; Philadelphia Dental College and the Pittsburgh College of Dentistry have been approved by the executive committee of the Dental Educational Council of America as eligible for enrolment of students for the army training corps.

Lieut. Wilfred B. Fetterman, Philadelphia, commanding health service unit No. 581, has been cited for gallantry in action and awarded the Croix de Guerre He was educated in St. Joseph's College, Clougowes College, Ireland, and the University of Pennsylvania Medical School. The citation declares him distinguished for the rapid clearance of the wounded in the midst of difficult and dangerous surroundings.

Infantile Paralysis in Franklin County.—On August 25 the tenth case of infantile paralysis in a fortnight was reported; the boy, 14 years of age, died, making the third fatal case.

Donaldson Memorial.—The general operating room in the new addition to the Canonsburg General Hospital has been equipped as a memorial to the late Dr. John B. Donaldson, the money being a bequest from the estate of his widow, Mrs. Elizabeth Foster Donaldson, who died in February, 1918.

Physicians to Aid Municipal Court.—A department of diagnosis under the direction of Dr. Charles B. Penrose will be used henceforth in the administration of justice in the Municipal Court. Associated with Dr. Penrose will be Drs. Daniel J. McCarthy, Charles S. Potts, Seymour D. Ludlum, John C. DaCosta, Jr., Frank W. Swallow and John M. Baldy. Restoration of the "misfits of society" who come before the court is planned through the organization of the staff of consulting physicians who will visit the department of diagnosis and examine such patients. These cases will include child delinquency, abandonment of children, nonsupport, incorrigibility, street walking and crime. The new department will coordinate with the medical and psychologic work of the court.

Course in Public Health Nursing.—Beginning October 1, the Carnegie Institute of Technology announces that a four-year course in public health nursing will be opened by the general science department at the Margaret Morrison Carnegie School. The schedule of studies includes English, physics, chemtistry, biology, physiology, foods, hygiene and physical training in the freshman year; microbiology, sanitary science, public health, industrial hygiene, public health nursing, dietetics and social work in the sophomore year, and theoretical and practical instructions in nursing for those who satisfactorily finish the first two years' work, in the junior and senior years. The graduates may be expected to find employment in school inspection, factory and industrial, public health and welfare work.

Volunteer Medical Service Corps.—The Central Governing Board of the Volunteer Medical Service Corps of the Council of National Defense announces that the Pennsylvania State Executive Committee of the V. M. S. C. is comprised of the following doctors: J. J. Buchanan, Chairman, 623 Union Arcade, Pittsburgh; Julius H. Comroe, Secretary, York; G. Franklin Bell, Williamsport; Edward P. Davis, Philadelphia; W. S. Foster, Pittsburgh; Spencer M. Free, Dubois; E. A. Krusen, Norristown; Melvin J. Locke, Bellefonte; John B. McAlister, Hiram McGowan, Harrisburg; E. E. Montgomery, W. A. Pearson, William Duffield Robinson, Philadelphia; Lewis H. Taylor, Wilkes-Barre. The purpose of this committee is to cooperate with the Central Governing Board in prosecuting all activities pertaining to the mobilization and enrolment of members of the V. M. S. C. throughout the state. The Central Governing Board also authorized the appointment of one county representative in every state of the Union. The county representatives for Pennsylvania are as follows:

Adams—N. C. Trout, Fairfield.
Allegheny—J. J. Buchanan, Union Arcade, Pittsburgh.
Armstrong—J. M. Cooley, Kittanning.
Beaver—Jefferson H. Wilson, Beaver.
Bedford—Walter F. Enfield, Bedford.
Berks—Daniel N. Bertolette, 127 S. 6th St., Reading.
Blair—Charles F. McBurney, Altoona.
Bradford—C. L. Stevens, Athens.
Bucks—Anthony F. Myers, Blooming Glen.
Butler—Robert B. Greer, Butler.
Cambria—H. J. Cartin, 108 Main St., Johnstown.
Cameron*
Carbon—J. Edward Waaser, E. Mauch Chunk.
Center—J. L. Seibert, Bellefonte.
Chester—P. C. Hoskins, West Chester.
Clarion—J. T. Rimer, Clarion.
Clearfield—John W. Gordon, Clearfield.
Clinton—E. L. Fullmer, Renovo.
Columbia—John W. Bruner, Bloomsburg.
Crawford—G. E. Humphrey, Cambridge Springs.
Cumberland—H. B. Etter, Shippensburg.
Dauphin—J. M. J. Raunick, Harrisburg.
Delaware—Harry M. Armitage, Chester.
Elk—S. G. Logan, Ridgway.
Erie—Maxwell Lick, Erie.
Forest*
Fulton*
Greene—Samuel H. Iams, Waynesburg.
Huntingdon—Cloy G. Brumbaugh, Huntingdon.
Indiana—W. B. Ansley, Saltsburg.
Jefferson—S. Meigs Beyer, Punxsutawney.
Juniata—B. F. Long, Mifflin.
Lancaster—Frank G. Hartman, Lancaster.
Lackawanna—Frederick L. Van Sickle, Olyphant.
Lawrence—R. A. Wallace, New Castle.
Lebanon—J. C. Bucher, Lebanon.
Lehigh—Harry J. S. Keim, Catasauqua.
Luzerne—William H. Corrigan, Wilkes-Barre.
Lycoming—Charles W. Youngman, Williamsport.
McKean—James Johnston, Bradford.
Mercer—M. H. Yeager, Mercer.
Mifflin—A. S. Harshberger, Lewiston.
Monroe—Walter L. Angle, E. Stroudsburg.
Montgomery—Charles H. Mann, Bridgeport.
Montour—B. E. Bitler, Pottsgrove.
Northampton—W. L. Estes, S. Bethlehem.
Northumberland—G. W. Reese, Shamokin.
Perry—B. F. Beale, Duncannon.
Philadelphia—F. C. Hammond, 3311 N. Broad St., Philadelphia.
Pike—W. B. Kenworthy, Milford.
Potter, E. H. Ashcraft, Coudersport.
Schuylkill—A. B. Seligman, Mahanoy City.
Snyder*
Somerset—G. A. Noon, Listie.
Sullivan—Theodore Wright, Dushore.
Susquehanna—John G. Wilson, Clarks Summit.
Tioga—William A. DeWitt, Blossburg.
Union—Charles A. Gundy, Lewisburg.
Venango—James B. Siggins, Oil City.
Warren—F. G. Haines, Warren.
Washington—A. E. Thompson, Washington.
Wayne—Robert W. Brady, Honesdale.
Westmoreland (has entered military service but new one will be appointed soon).
Wyoming—Herbert L. McKown, Tunkhannock.
York—Julius H. Comroe, York.

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*These counties not organized but are being taken care of by chairmen of neighboring committees.

Pennsylvania Physicians Recently Commissioned.—The following Pennsylvania physicians are reported to have received commissions in the Medical Corps of the Army and Navy since the list in the Journal for September:

Altoona—C. H. Metzgar.
Arendtsville—U. G. Bickell.
Avalon—A. H. Elliott, C. L. Lutz.
Avondale—C. T. McGraw.

Bellevue—W. B. Shepard.
Bitumen—G. D. Mervine.
Boyers—T. L. Sisney.
Braddock—J. P. Egan.
Bristoria—J. A. Coen.
Burgettstown—G. L. McKee.
Butler—E. M. Hughes.

Canonsburg—J. E. Wilson.
Canton—A. E. Dann.
Carrick—J. V. Harsha.
Cassville—J. G. Koshland.
Center Hall—J. V. Foster.
Charleroi—V. P. Vieslet.
Clairton—C. B. Norcross.
Clearfield—L. C. Rowles.

Darlington—R. W. Watterson.
Doylestown—C. D. Fox.
Dubois—F. G. Patterson.
Dunlo—W. W. Livingston.

East Brady—T. H. Harter, W. H. Kelsea.
Eldred—F. R. Humphreys.
Erie—N. D. Gannon, C. A. McNeill.

Franklin—J. I. Zerbe.
Freeland—C. A. Rogers.

Grove City—B. A. Montgomery.

Harrisburg—L. W. Frasier, F. D. Kilgore.
Hepburnville—A. D. Waltz.
Hershey—J. L. Zimmerman.

Indiana—H. B. Buterbaugh.
Joffre—W. L. Scott.
Johnstown—J. D. Keiper.

Kirkwood—T. R. Ferguson.

Lebanon—G. R. Pretz.

McDonald—W. R. Dickson, C. W. Dixon, J. A. Douglas, W. A. LaRoss, J. P. Taylor.
McKees Rocks—J. A. Lafferty.
Meadow Lands—J. A. Gormley.
Mercer—P. T. Hope.
Minersville—J. M. Monaghan.
Morea—F. J. Conahan.
Mt. Lebanon—C. L. Palmer.
Mt. Pleasant—M. Depta.

New Florence—H. W. Tittle.
Norristown—J. R. V. Wolfe.

Oil City—P. L. Bruner.
Oxford—A. A. Collins.

Perkasie—O. H. Strouse.
Philadelphia—A. F. Beck, J. B. Becker, M. B. Bernard, N. S. Betts, W. V. Coyle, T. C. Davis, L. G. Flannery, T. A. Greco, F. L. Hughes, A. B. Light, S. A. Loewenburg, W. McKeage, J. A. H. Magonn, E. A. Mallon, H. W. Miller, H. S. Newcomer, H. K. Pancoast, R. C. Parrish, J. L. Richards, M. J. Schwartz, R. E. Shrom, B. H. Shuster, J. C. Siggins, L. G. Smith, I. Z. Stalberg, F. G. Stubbs, R. G. Torrey, J. P. Tunis, J. W. Vaughn, J. Walsh.
Pittsburgh—T. Baker, S. A. Beddall, R. C. Butz, W. A. Clark, R. L. Ertzman, D. R. Evans, W. G. Eyman, W. F. Fyke, N. D. Gannon, H. D. Jorden, J. D. Kistler, H. A. Kipp, W. S. McEllroy, W. W. McFarland, C. A. McKee, J. S. Mackrell, H. Nevins, M. A. Newman, I. L. Ohlman, Z. R. Scott, L. H. Stuart, I. Williams.

Quakertown—W. G. Moyer.

Ridgway—J. G. Flynn.
Roaring Spring—W. L. Grounds.

Schuylkill Haven—H. T. Ryan.
Scranton—R. D. Mackey, C. R. Morse, J. J. Sullivan, Jr., G. J. Van Vechten.
Shillington—I. B. High.
State College—G. C. Glenn.
St. Clair—E. T. Jones.
Steinsville—W. J. Fetherolf.
Sunbury—R. B. McCay.
Sutersville—H. L. Baer.
Swissvale—C. S. Caldwell.

Trumbauersville—H. C. Grim.

Vanderbilt—J. H. Hazlett.

Washington—D. Beveridge, G. E. Patterson.
Wilkes-Barre—J. J. Quinn.
Williamsport—J. G. Logue, L. W. Wright.
Woodbine—W. C. Smith.
Woodlawn—W. S. Bryson.
Zelienople—A. E. Whittaker.

GENERAL NEWS ITEMS

The Brockton (Mass.) Hospital has for the first time in its history appointed a woman physician as intern.

The American Hospital Association held its twentieth annual convention in Atlantic City, during the week beginning September 23.

The American Academy of Political and Social Science held a conference on "Rehabilitation of the Wounded," in Philadelphia, September 21 and 22.

Volunteer Medical Service Corps.—The Council of National Defense states that 18,263 applications were received between September 3 and September 7, inclusive.

Influenza at Camp Devens.—One thousand cases of influenza were reported at Camp Devens, Ayer, Mass., on September 14. One case complicated by pneumonia had proved fatal.

Surgeon-General William C. Gorgas, accompanied by Secretary of War Baker, arrived in France on September 8, on a tour connected with the work of the War Department.

Dr. Henri S. Beland, formerly Postmaster-General of the Dominion of Canada, has returned after three years' captivity in Berlin, during which time he served as assistant to the prison physician.

Colonel Frank Billings, Chicago, sailed recently for duty overseas to study problems of reconstruction surgery. He will probably return after a few months to supervise the work of his division in this country.

Dr. Jacob H. Gallinger, Republican leader in the U. S. Senate, died in Franklin, N. H., August 17, from arteriosclerosis, aged 81. Dr. Gallinger was a graduate of the New York Homeopathic Medical College, 1868.

Mortality Among Women from Causes Incidental to Childbearing is the title of an article by Louis I. Dublin, Ph.D., statistician, Metropolitan Life Insurance Co., in *American Journal of Obstetrics and Diseases of Women and Children,* Vol. 78, No. 1, 1918.

Sanitary Housing of Rural Workmen.—Public Health Reports, Vol 33, No. 36, Sept. 6, 1918, contains much valuable and practical information relating to Sanitation of Rural Workmen's Areas with special reference to housing. The articles are well illustrated.

Hospital for Convalescent Aviators.—A small hospital for convalescents of the aviation corps will be built on the campus of the University of California at Berkeley this fall, according to an announcement made by the board of regents of that institution, following a meeting held August 13.

Falling Off of Marriages and Births.—According to reports published by the Department of Health of New York City, from January 1 to July 1, 1918, there have been 2,804 fewer marriages and 410 fewer births than for the same time in 1917. This is following the experience of Europe since the war started in 1914.

Resolution by Medical Association Against Alcohol.—At its recent meeting the Manitoba Medical Association entered a resolution in the minutes of the society that the restrictions placed on the sale and use of alcohol in the province had resulted in the moral, physical and economic betterment of the people.

Want Medical Examinations for Industrial Workers.—Samuel Gompers, as chairman of the Committee on Labor of the Council of National Defense, has recommended to Secretary of Labor Wilson that medical examinations of industrial workers be made one of the functions of the government's labor recruiting agencies.

Framingham Monograph No. 3, Community Health Station, Framingham, Mass., is the third in the Framingham monograph series, and deals with the statistical phase of the sanitary survey, and will be followed subsequently by other bulletins in the sanitary series presenting the other phases of this community-wide analysis of hygienic factors.

Influenza on Liner Fatal.—A liner arriving at an Atlantic port was detained several hours owing to an outbreak of influenza. The vessel left France, August 24, and during its voyage had twenty-five cases of Spanish influenza on board, two of which proved fatal. Those showing symptoms of the disease were taken to a local hospital for further observation.

Grade of Army Nurses. — The Secretary of War has issued an order amending paragraph 9 in the army regulations by inserting a new grade of nurse next below the grade of cadet and above that of sergeant major. This places the nurses in authority above all the enlisted men in the army but does not meet the views of the nurses who have asked for commissioned rank.

Student Nurses May Go to France. — The fifty American hospitals which organized base hospital units for service in France have been notified by the Surgeon-General that they may invite a limited number of their student nurses to go to France, where they can have the privilege of rendering service and, at the same time, complete their training under representatives of their own schools in base hospitals abroad.

Women Doctors Need Help.—Dr. Barbara Hunt, Bangor, Me., director of the Women's Hospital No. 1 in France, has cabled that there is urgent need for women physicians in connection with the work of that hospital. The hospital has twenty-five beds for military patients and twenty-five beds for civilian patients, and is establishing dispensaries in nearby towns and villages. In this enterprise it is working in cooperation with the American Committee for Devastated France.

Home for Disabled Soldiers.—Plans for a $300,000 hospital and home for men incapacitated in the war are being made by the Motion Picture War Service Association, Los Angeles. The erection of a central building and a number of bungalows is contemplated, the hospital to have accommodations for 500 patients, with a vocational training school. When the institution is no longer needed as a hospital it will be converted into a home for aged and invalid motion picture actors.

The Normal School of Physical Education, Battle Creek, Mich., affiliated with the Battle Creek Sanitarium, wishing to do its share toward winning the war, has inaugurated a course in physiotherapy, which meets the requirements of the War Department. Courses begin October 1 and February 1. Length of course is four months. The curriculum consists of anatomy, physiology, hygiene, bandaging, active and passive movements, hydrotherapy, massage, electrotherapy and clinics.

New Home for Soldiers.—Through the kindness of Dr. Howard A. Kelly, 160 acres of ground has been set aside on the Severn River as a convalescent camp for soldiers. This camp has been named Camp Purnell, in honor of Colonel Purnell of Fort McHenry. The sick and wounded soldiers from ovreseas who are brought to this district and placed at Fort McHenry will, when convalescent, be sent to this spot to regain health and strength. Camp Purnell will likewise be opened to convalescents from all army and naval camps and stations in this section who pass through the wards at Fort McHenry.

Prohibition of Child Labor.—Congressman Edward Keating of Colorado stands sponsor for a new war measure which will directly prohibit the labor of children of less than 14 years of age at any time, and children between the ages of 14 and 16 years for more than eight hours a day, and of children of less than 16 years of age in mines and quarries. The bill seeks to maintain standards during the war by direct prohibition under the war powers of Congress. The bill was drawn by Thomas I. Parkinson of the Legislative Drafting Research Fund of Columbia University, and has been approved by a joint committee of the National Child Labor Committee and the American Federation of Labor.

Special Hospital for Aviators at Cooperstown, N. Y.—The War Department has accepted the offer of Edward S. Clark of Cooperstown, N. Y., to use the Mary Imogene Bassett Hospital and Pathological Laboratory at Cooperstown for the period of the war and one year after. It will become a general hospital, where special attention will be given to nervous conditions among aviators. The hospital, which is being erected at the present time, will be ready for use early in 1919. It is a stone building of fireproof construction, consisting of one main building and wards with accommodations for 185 patients. One hundred beds and full equipment necessary for caring for that number of patients will be provided by Mr. Clark. The balance of the equipment is to be furnished by the government.

The Value of School Lunches. — The Public Health Committee of the New York Academy of Medicine reports that at least 10 per cent. of the children of New York suffer from some degree of undernourishment. Proper school lunches not only improve the children but develop habits for wholesome and nutritious foods which they have not been receiving at home. They take back into the homes the taste for the new foods and by the thus stimulated demand improve the home dietary. The cost involved in the municipalization of the school canteens is so insignificant in comparison with the total budget of the department of education that it should not deter our city government from instituting this important service at the opening of the new school year in September.

Houses for Army Nurses.—To give army and navy nurses a comfortable place in which to spend their hours off duty, the American Red Cross will provide special nurses' recreation houses at all large base hospitals, to cost about $350,000. Contracts have been let for forty, several of which are completed and some more are under contract. These houses were provided as soon as it was learned that the nurses had no attractive rest rooms and were obliged either to stay in their bedrooms or to sit in a narrow corridorlike space set aside for them. In some of the camps the Red Cross not only has provided these houses but has secured cottages nearby in the mountains or at the seashore, where nurses, especially in need of rest can go for a recuperative week end. The nurses keep house for themselves.

Death Rate in Large Cities.—Deaths (stillbirths excluded) reported to the Bureau of Census during the week ending Sept. 14, 1918, in large cities of the United States give the following annual death rate per 1,000 estimated population: Memphis, 20.3; Cambridge, 19.2; Richmond, 18.1; New Orleans, 17.6; Nashville, 16.8; Baltimore, 16.7; Columbus, 16.6; Birmingham, 15.4; Fall River, 15.3; Washington, D. C., 15.2; Boston, 14.9; Cincinnati, 14.9; Buffalo, 14.8; Lowell, 14.1; Pittsburgh, 14.1; Louisville, 13.6; Jersey City, 13.2; Dayton, 12.9; Los Angeles, 12.9; Worcester, 12.9; Atlanta, 12.8; San Francisco, 12.8; Toledo, 12.6; Syracuse, 12.2; Cleveland, 12.0; St. Louis, 11.6; Grand Rapids, 11.4; Providence, 11.4; Kansas City, Mo., 11.3; Newark, 11.3; Philadelphia, 11.2; St. Paul, 11.2. The lowest rate given was Minneapolis, 7.8.

Mobile Hospital Now in France.—The news comes from Washington that the first mobile hospital for the United States Army in France has arrived safely on the other side. The hospital consists of five sections—a power truck, sterilizing truck, operating tent truck, surgical supply truck, and drug truck. There are also four trailers—electric light and roentgen ray, kitchen, provision and storage. In addition, the unit is strengthened by a fleet of ten light trucks carrying tentage, water, fuel, operating and repair parts, and means of communication. The personnel embraces at least 100 medical officers and nurses and about 200 medical enlisted men; also a small detachment of quartermaster men, including expert mechanics. The advantage of this kind of hospital is that it can be rushed up to within five miles of the front line in any direction, thus keping up with a rapid advance of a fighting force and doing away with the necessity of transporting seriously wounded men over shell torn ground before their injuries have had proper attention. The operating room can be set up in less than an hour, it is said, and 200 patients can be cared for at a time. Surgical facilities of the hospital will permit 100 major operations in twenty-four hours.

UTILIZATION OF PLATINUM IN UNUSED INSTRUMENTS.—In view of the limited supply of platinum in the country and of the urgent demand for war purposes, it is requested that every doctor and dentist in the country go carefully over his instruments and pick out *every scrap of platinum* that is not absolutely essential to his work. These scraps, however small and in whatever condition, should reach governmental sources without delay, through one of two channels: (a) They can be given to proper accredited representatives of the Red Cross who will shortly make a canvas for that purpose; or (b) they may be sold to the government through any bank under the supervision of the Federal Reserve Board. Such banks will receive and pay current prices for platinum. By giving this immediate attention you will definitely aid in the war program. It is recognized that certain dental and surgical instruments requiring platinum are necessary, and from time to time platinum is released for that purpose. It is hoped, however, that every physician and every dentist will use substitutes for platinum for such purposes wherever possible. You are warned against giving your scrap platinum to anyone who calls at your office without full assurance that that individual is authorized to represent the Red Cross in the matter.

TO PHYSICIANS OF AMERICA.—Twenty-five thousand graduate nurses must be in war service by January 1, in the Army Nurse Corps, in the Navy Nurse Corps, in the U. S. Public Health Service, in Red Cross war nursing. This involves withdrawal of many nurses from civilian practice and necessitates strict economy in the use of all who remain in the communities. You can help get nurses for our sick and wounded men by bringing this need to the attention of nurses; by relieving nurses where possible fully or in part from office duty; by seeing to it that nurses are employed only in cases requiring skilled attendance; by insisting that nurses be released as soon as need for their professional service is ended; by seeing that your patients use hospitals instead of monopolizing the entire time of a single nurse; by encouraging people to employ public health nurses; by instructing women in the care of the sick; by inducing high school and college graduates to enter the Army School of Nursing or some other recognized training school for nurses. Encouraging nurses to go to the front involves personal sacrifice and added work on the part of physicians whose duty it is to maintain the health of our civilian second line of defense, but the men who are fighting for their country in France need the nurses.—Department of Nursing, American Red Cross, Washington, D. C.

SUBMITS TO "COOTIES" TO HELP OUR SOLDIERS.—Entomologists of the U. S. Department of Agriculture are striving, under direction of the Council of Research of the Council of National Defense, to find preventives and exterminators for the pests that not only annoy and irritate American soldiers, but that spread trench fever and other diseases among them. In Washington a man is inconspicuously doing his bit, or his all, for his country by serving as a "host" for body lice, the "cooties" of the war zone. Formerly he served the city of Chicago in a public capacity. He has a son with the American Expeditionary Forces in France, and when he volunteered for the experimental work he said he was willing to do anything to help the boys over there. Valuable data in regard to the control of the "cootie" have been obtained from the parasites living on his body. Moving pictures, taken through a microscope, are to be magnified and shown at army camps before scientists and army officers engaged in delousing work. The entomologists also are testing chemicals to learn their destructive action on lice, their effect on human bodies and their penetration of clothing; they are cooperating with army officers in testing laundering and delousing processes; and are trying to add to the knowledge of how to repel, kill or drive away the tiny parasites that to many of our soldiers have proved more troublesome than the Huns or the bullets of the Huns. One of the entomologists also is serving as a host for the parasites, but in a more restricted sense than the Chicago man. His "cooties" are confined under the glass top of a wristlet, and cannot move to any other spot. Through the glass cover can be watched the "cooties" as they emerge from their shells and go through all the stages of their life cycle. Extensive governmental efforts to devise ways of overcoming the parasitic evil are under way. Similar efforts have been and are being made in practically every country that has large armies in the field. The war centered attention of entomologists on body lice, which previously had not received as much attention as scientists believe they deserve. If the "cootie" should appear in numbers at the camps in this country military authorities expect to be ready to deal with it. Men serving for long periods in the trenches, or at other places where bathing and disinfecting facilities are not available, are the principal sufferers. Delousing stations, where thorough bathing, hair-clipping and disinfection of clothing can be done, have been established in the war zone. Moving pictures to be part of the campaign against "cooties" show how the louse comes into existence, how it passes into the nymph stage and from that to the adult, and how it propagates its species. They also will show lesions caused by the bites of the parasites and how to find the eggs and the insects themselves in the folds of clothing. These will be added to films to be taken under the direction of the War Department which will show a delousing station, the devices used, and a company of men ridding themselves of their unwelcome visitors. To gather and correlate all scientific knowledge available on the subject, Bureau of Entomology scientists have organized a study class that meets weekly and sends reports of its findings to army officers and others engaged in eradication of parasites.

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

THE WASSERMANN TEST. By Charles F. Craig, A.M. (Hon.), M.D. (Yale), Lieutenant-Colonel, Medical Corps, U. S. Army; Fellow of the American College of Surgeons; Formerly Assistant Professor of Bacteriology and Pathology, Army Medical School and George Washington University; Commanding Officer, Department Laboratory, Central Department, U. S. Army, Fort Leavenworth, Kan. Published with authority of the Surgeon-General, U. S. Army. Illustrated with color plates, halftone plates, and fifty-seven tables. St. Louis: C. V. Mosby Company, 1918.

Essentials of Dietetics. A Textbook for Nurses. By Maude A. Perry, B.S., Formerly Dietitian and Instructor in Dietetics at Michael Reese Hospital, Chicago; Corresponding Secretary of the American Dietetic Association; Red Cross Dietitian for Base Hospital Unit No. 14. St. Louis: C. V. Mosby Company, 1918.

Concerning Some Headaches and Eye Disorders of Nasal Origin. By Greenfield Sluder, M.D., Clinical Professor and Director of the Department of Laryngology and Rhinology, Washington University Medical School, St. Louis. With 115 illustrations. St. Louis: C. V. Mosby Company, 1918.

Nursing in Diseases of Children. By Carl G. Leo-Wolf, M.D., Chief of Clinic for sick babies and children for the Health Department of the city of Buffalo; Instructor in Pediatrics, University of Buffalo, Medical Department; author of "The Child in Health and Illness." With 72 illustrations. St. Louis: C. V. Mosby Company, 1918. Price, $2.50.

Hygiene for Nurses. By Nolie Mumey, M.D., Lecturer in Hygiene, Chemistry and Bacteriology, Logan H. Roots Memorial (City Hospital) Training School; Assistant Instructor in Surgical Technic, University of Arkansas; Resident Physician of City Hospital and a member of the visiting staff, Little Rock, Ark. With 75 illustrations. St. Louis: C. V. Mosby Company, 1918. Price, $1.25.

Surgical and War Nursing. By A. H. Barkley, M.D., M.C., F.A.C.S., Lecturer at Good Samaritan Hospital Training School for Nurses; Consulting Surgeon, Good Samaritan Hospital, Lexington, Ky. With 79 illustrations. St. Louis: C. V. Mosby Company, 1918. Price, $1.75.

A Textbook of Physiology for Nurses. By William Gay Christian, M.D., Professor of Anatomy, Medical College of Virginia, and Charles C. Haskell, M.A., M.D., Professor of Physiology and Pharmacology, Medical College of Virginia. Illustrated. St. Louis: C. V. Mosby Company, 1918. Price, $1.75.

BOOK REVIEWS

THE SURGICAL CLINICS OF CHICAGO. Vol. II, No. 3 (June, 1918). 8vo, pages 253, illustrated. Philadelphia and London: W. B. Saunders Company.

The usual high class papers, with excellent original illustrations, are seen herein. Kidney stones, ureteral stones and gallstone disease are discussed by masters in surgery, who show when and when not to operate. Abdominal conditions, chest surgery, brain surgery, orthopedic surgery and affections of nose, throat and ear give added interest. The writer of this notice delights in seeing a too hasty resort to surgery condemned by such famed surgeons as Ochsner and Bevan. Dr. G. E. Shambaugh's clinical discussion of surgical infections of the sinuses of ear and nose deserves earnest perusal by general surgeons of all degrees of experience. The volume causes envy that Pennsylvania has no similar bimonthly record of its clinical surgical work. J. B. R.

COMMUNICATIONS

LETTER FROM LIEUT.-COL. FRANKLIN

(The editor would feel selfish in keeping to himself a personal letter, the major part of which follows.)

Headquarters, U. S. Army Ambulance Service,
With the Italian Army, Aug. 31, 1918.

My Dear Dr. Stevens:—This is the first opportunity I have had to write you since coming to this sunny land, and so much has occurred that it is hopeless to try to find time to tell you all about it and fortunately I am not yet the type of man Coleridge had in mind when he wrote the "Rhyme of the Ancient Mariner," for my story does not have to be told so your patience is saved a hard strain. I arrived in France and saw the country from end to end and I am glad I was able to do so, as the contrast between France and Italy is great in many ways, and in no way more so than between war-worn France and sunny Italy, the war being of such a different type over here that the country does not show the results as much as it might, yet Italy is going through all the travail of real war in drastic form. The Ambulance Service here is in first-class condition and is maintaining the high reputation already established by our other half in France. We have been received with open arms here and I know what it is to lead a column through broad piazzas over a carpet of flowers, while thousands of others were showered down on our heads, amidst the deafening "Evviva Americani" of an admiring multitude, with our now famous band playing the Royal March of Italy and the Star Spangled Banner, and our color guard carrying the flags of the two countries which we brought with us. We have been wined and dined without interference with our work, which commenced even before our main contingent arrived, as I had the job of preparing a camp for them here, having come across the water ahead; and our khaki-colored camp being the first one that Italy has ever seen made a great impression on them, and the business-like way our officers and men have avoided the siesta and going busily about their duties has aroused constant favorable comment.

I sit in my tent as commander of this camp amidst the beautiful scenery of one of the most historic spots in Italy. Here Dante wrote, Tasso sang and Petrarch sighed, while later Byron and even Dickens sojourned here, and not far from where I sit Shelley's body was washed ashore from shipwreck and was given funeral pyre by Leigh Hunt. Do you remember the story, or has it never reached you, that finding the humble fisher folk about to burn the body of a man from shipwreck, Leigh Hunt identified it and gave it formal funeral pyre, and afterward in attempting to collect the ashes found that Shelley's heart had been entirely unconsumed and took it to Rome for interment. I can see from our camp a great cathedral built in the eighth century where lies the body of John the Baptist and the chains that bound him, and the salver on which Salome placed his head, and in which the mighty columns stretching aloft like the giant red-woods of California into the mystic darkness of the roof, with their bases hacked by the battle axes of the Saracens when they came across and took possession. The front steps trodden by the feet of Charlemagne, Chevalier Bayard, Catherine di Medici, Napoleon—why name them, simply say that all of them at one time in history have been in this church, which contains the famous "Black Virgin," and in whose choir Paganini played. I walked into this church one Sunday afternoon and as I went up the vast and dim interior, lit only by the colored sunlight coming through the ancient stained glass, I found the floor filled with figures kneeling in prayer. I stepped behind a column to efface myself but was recognized as one of the honored Americani and was escorted up through the midst of the throng up the chancel steps, through the altar gates and around into the choir, to be shown the treasures of the church. I felt out of place at the time, but they seemed to think that the American soldier added to the long list of tradition of the church, and so the clink of my spurs in the silence did not disturb them as much as it did me, and I shall never forget the impression I had in this historic structure which, truth to tell, affected me much more than did that of great St. Peter's which I also visited in Rome. In my spare moments I have been shown the storied treasures of Italy and the mind tires in contemplation of the physical realities of that which hitherto has been only a mental picture derived from study. Old masters were swung out from the walls by hinges at the Vatican for my inspection, the glories of Michelangelo's marbles were represented and viewed, the triumphs of Benvenuto Cellini were laid out for inspection—in fact all were here and I have already treasured up memories to last me a lifetime.

I walked in the Vatican gardens along the favorite bowered pathway of the Pope, which looks down on ancient Rome and her glories, and I picked a few flowers beside his favorite fountain as a keepsake of the visit, and the Swiss guard with tall halvert, slashed doublet and hose of red and yellow, and beefeaters, seemed quite in keeping with the magic scene. St. John Lateran showed me all its glories as treasured there by Barbarini and I found the three bees carved on every hand and almost forgave that great man of Rome for having torn away so much of the Colesseum to build his private palaces, making it the picturesque ruin it now is, a ruin we blame entirely on him and not on the Romans who build it, for their work seems to be everlasting. I have driven in my car back in the mountains along the arched roadways that are as solid as the day the Romans made them. And who can describe the glories of the French and Italian Alps? No brush can really depict the glories of Mont Cenis in its pink sun-lit cap or its silver helmet in the moonlight—one has to see it from beside the camp fire to get the spirit of it all. I cannot tell you more of the war side of my life here, as it is forbidden, except to say that everything goes well and the prospects are of the best, that we are thoroughly comfortable because we came magnificently equipped to the last detail by our government, and there is no lack and no complaint from any man among us. The main thought is service, plus. Those at home who sent us can feel justified in the sacrifice, for the men are making good and America will be proud that she has opened the eyes of old Italy to a newer and finer understanding of the Western hemisphere. Genoa has already expressed herself as being more than proud of their Columbus who could discover a land that could produce such soldiers, and I am very proud of the men myself and would not change my duties for any I have seen anywhere else, not even on the Western Front, well as I know it; not that the work is any easier here, because in many ways it is harder, having a greater variety of problems than has the Ambulance in France.

I get the copies of our magazine somewhat irregularly, but I know that that is through no lack of thought on your part, but the delays incident to the conveyance of mail in wartime due to the work of the censors. I have seen many members of the Pennsylvania medical society since leaving home and I always find them doing work which makes me proud of them and I hope that in the forthcoming September meeting, if this reaches you in time, you will urge on all those who are able to come into the Service to come, as there is room for all, and let no member of our Society use the rumor that the war will soon be over as an excuse for saying it is too late to come in. The Army needs the doctor and any medical man who is worthy of the traditions of our profession will respond and, if he considers the sacrifice involved at all, he will only commence figuring on it during the leisure of the long voyage across the water. My private profession contact is so far severed and my military life so fully developed that it comes with a curious sense of harking back to a previous incarnation when somebody asks for my service as an eye man, and I have so far managed to evade any but strictly military service over here, but willing at all times to consult but never agreeing to take the time to operate. This has given rise to many interesting situations, of many of which I will have much to say when I am home again. I hope you will find time in your busy moments to send me a word of greeting, for letters from friends at home are very valuable in the field.

With kindest regards to you and all my good friends in the Society, I am

Sincerely yours,
Clarence P. Franklin,
Lieutenant-Colonel, A. A. S.

WOMEN IN INDUSTRY

Harrisburg, Sept. 6, 1918.

To the Editor:—In the effort to secure adequate data on the subject of employment of women in industry, due to the war emergency, I have sent out the enclosed questionnaire * to the 1,500 industrial physicians of whom I have knowledge.

It would be a deeply appreciated courtesy if you would reprint this questionnaire in the next issue of The Journal, and request the members of the state society to cooperate with the Division of Industrial Hygiene and Engineering, Department of Labor and Industry, by writing me their answers on this subject.

Very sincerely yours,
Francis D. Patterson, Chief of Division.

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* The questionnaire appears on advertising page XIV.

A QUESTION OF DIAGNOSIS *

July 23, 1918.

To the Editor:—In the July issue of The Journal appears a case reported by Dr. C. C. Wholey as one of myotonia. This diagnosis ought not to go unchallenged; for on it are based some metabolic studies which might become quite misleading.

Dr. C. K. Mills, in the discussion, finds difficulty in understanding a case of myotonia confined to one extremity. This is by no means the only difficulty in this case; for the history tells us that "the condition had arisen rather suddenly, a week before his admission, and had been preceded by an occasional swelling and redness of his left hand." We are further told "at the time of definite onset the arm and hand became red and swollen to the shoulder with slight pain down the outer side of the arm. The patient said his elbow felt as though he had struck his 'crazy bone.' He also said his left wrist was hard to flex at first attempt, but after several movements the action became easier. Patient had noticed same condition regarding movement of the entire left arm in attempting to play billiards."

Now with this history and observation, the diagnosis of myotonia rests on observation that "with grasp of the left hand the patient is not able to let go for some seconds; but on repeating the movement would regain normal relaxation of the muscles." And then immediately we are told "movements in this extremity caused aching and quick sense of fatigue." Small wonder!

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* Through an oversight this communication was omitted last month.

Myotonia is a rare disease of slow onset, affecting various muscles of the body. How the case reported could be considered as one of this sort is beyond my understanding.

Thus it would appear that the evidence on which the diagnosis of myotonia is offered is very slender indeed. A much more reasonable view of this case, a much simpler one, would be that the difficulty in grasping and letting go of an object was due to the pain and swelling of the arm and hand.

Very truly yours,

Theodore Diller.

SOCIETIES

PITTSBURGH ACADEMY OF MEDICINE

Meeting of April 30, 1918

Recent Personal Exeriences in Pneumonias. Dr. I. J. Moyer: The present epidemic is very severe and frequently complicated by pleurisy, often resulting in empyema. Many show a hemolytic streptococcus which involves either side of body, or general septicemia with death. In treatment of these cases serum is used for all those showing pneumococcus Group 1. For all other cases urea quinin and optochin have been found useful in reduction of toxemia. Camphor in 30-grain doses is also useful. In the use of digitalis it should be given early and continued in such doses as required to maintain circulation.

Dr. J. I. Johnston reported a case of "Pneumonia Complicated by Endarteritis of Popliteal Artery on the Sixth Day."

Dr. M. H. Baker read a paper on "Camp Observations on Pneumonia."

Dr. Haythorn, in discussing, said that the question arises as to whether it is the breaking down of the organisms or tissue which causes toxemia in pneumonia. During the past year the Presbyterian Hospital in New York has reported Group 4 as the most fatal. The Allegheny Hospital in Pittsburgh has had the same experience.

Studies of the White Corpuscles in Their Circulation Through the Cornea. Dr. J. E. Willetts: In 1891 I described to a number of colleagues a phenomenon of vision, which two years later Bowdich briefly described and classified as the retinal circulation. In a paper in 1894, and in an address on "Ophthalmology" before the Medical Society of the State of Pennsylvania some time later, I gave a detailed description of the phenomenon under the title of "Corneal Corpuscular Activity," and classified it as the circulation of white leukocytes in the lymph channels of the cornea. The theory that it is the retinal circulation is untenable, because the red corpuscle is not associated in this phenomenon, because the movement of the bodies is independent of their media, and because they cross and recross the central field of vision, which contains no capillaries in which to circulate.

Repeated observations and study of their circulation through the cornea has proved to me conclusively that the number of leukocytes outside of the blood vessels is much greater than is generally supposed.

In the cornea there is approximately 100 of these moving bodies constantly visible throughout the field, and it is quite reasonable to suppose as many more not visible. Personally, I am convinced that these bodies comprise all of the so-called varieties of the leukocyte. I have noted a variation in size and appearance and movement. Of course, such a distinction is purely a psychical interpretation and incapable of demonstration. Each observer of this phenomenon of corpuscular activity in the cornea must form his own conclusions. Naturally, interpretation will vary. But I am convinced that those who make frequent observations and closely study the movements of these bodies will agree with me that they are not confined to any one variety. The duration of their individual transit is less than a second, which means a circulation of some 360,000 in an hour, or 12,840,000 pass by a given visible point in the lymphatic system in twenty-four hours. Several things seem to indicate that the number of leukocytes normally in the blood vessels represent but a half or possibly a third of the number found within the body as a whole. The great fluctuation of the number of leukocytes in the blood stream under certain conditions indicates greater numbers on the outside, which can be summoned to the blood stream in cases of emergency.

Meeting of May 7, 1918

A Case of Probable Obstruction of the Vas. Dr. C. J. Ellis: The patient is a young man, 27 years of age. When 5 years of age he received an injury in the left inguinal region, while jumping over a fire plug. Just the exact nature of the injury is not clear, but there was marked ecchymosis and swelling in the inguinal region and the patient was kept in bed for a week at least. He first came under my observation when about 16 years of age, and at that time had been having pains for over a year at an interval of about one month. When a paroxysm of pain began it would be noticed first in the left inguinal region. The pain would be continuous, gradually increase in severity and finally extend to right side. This would continue for several days, and always end abruptly with a seminal emission.

Examination showed nothing in either inguinal region, but showed a small hydrocele on the right side and a varicocele of moderate degree on the left side.

Tapping and draining the hydrocele gave a temporary relief, so operation was tried about two years after first seeing him. The varicose veins on the left side were removed and Andrews' operation was done on the hydrocele. This gave him relief almost entirely for about six months, when the trouble returned with the same severity as before.

In 1910 he was seen by a urologist of this city, who made a diagnosis of some obstruction of the vas, but could suggest no treatment. This man referred the patient to Dr. Keys of New York, who also thought there was some obstruction of the vas, and suggested marriage as the solution. The patient was unable to follow out the advice until two years later, when he was 21 years of age. For the first year of his marriage he was almost free from the attacks, but they began to return with a lessened interval between them until, at present, they are only three or four days apart. Intercourse at the beginning of the paroxysm will give immediate relief, but if attempted later in the attack the pain becomes more severe and does not subside for another six or eight hours.

During his periods of greater freedom from these attacks following his operation and following his marriage there was each time a marked increase in his weight, which was gradually lost when the pains returned.

He has been seen by still another urologist within the past year, who was unable to suggest anything further.

A Case of Syphilitic Meningomyelitis. Dr. C. L. Bixer: Mr. L. A., aged 28, instructor in German, was first seen Feb. 19, 1917. His family history is unimportant. Patient has always been more or less athletic, and fond of tennis, swimming and the like. In 1915, while in the Panama Canal Zone, he strained his back while diving. This strain was repeated in the fall of 1916.

When seen February 19, patient was in great agony, complaining of pain in his right flank, extending around to the midline. He had had some nausea and vomiting, and showed a temperature of 100.5 to 101. The pain consisted of a terrible ache, centering about the right kidney region. He gave no history of having had any difficulty in urination and no history of blood in the urine. Several large doses of morphin were required to give him comfort. On going into his history it was found that he had had several similar attacks occurring in the fall of 1916, following exposure from sitting on grandstands at football games. This happened several weeks in succession, and on one or two occasions he was seen by a physician who suggested kidney stone. The picture he presented February 19 certainly suggested this above all else. With this in mind,, he was sent to a hospital, where he was watched carefully, cystoscoped and a general genito-urinary examination made, all of which proved negative. Roentgen-ray pictures of his spine and kidney region were entirely negative. There was no pus in the urine. no prostatitis and no seminal vesiculitis. He ran a slight temperature, and after being in the hospital a week or so developed a definite jaundice. Gradually this cleared up, and at the end of seventeen days he left the hospital without any diagnosis having been made. During his stay at the hospital the following possibilities were suggested to us: spondylitis, nephrolithiasis, seminal vesiculitis, prostatitis, catarrhal jaundice.

By March 17 patient was regaining his weight and the jaundice was clearing. In regard to his strength he stated that he faltered on the stairs only.

June 29: Since last seen in March, patient had done fairly well. He stated that he had had slight twitchings in the left side of the back, followed by some weakness of the back when stooping, running or playing tennis. Also stated that he had slight numbness on the anterior surface of the left thigh, with some muscular twitching. Left knee also gave way at times.

Late in July he entered another hospital, where he was thoroughly gone over with reference to the troubles complained of. He was thought to have an intestinal intoxication on account of a marked indican reaction in his urine, and some lumbar myositis occurring secondarily to his intestinal intoxication. Spine and gastro-intestinal tract were roentgen rayed with negative results. Blood Wassermann proved negative at this time.

By the latter part of August his condition had gotten progressively worse. He had more or less girdle pains about his waist, worse at night, at times wakening him from a sound sleep. He developed some spasticity of his right leg and foot. He had some difficulty with his anal sphincter, lacking control when bowels were loose. Numbness in anterior and outer aspects of thigh persisted and numbness in the feet developed, with dragging of the right leg and toe. Thinking that perhaps his condition might be due to an infectious arthritis, with some nerve root or meningeal irritation, in the lower thoracic region, tonsillectomy was done August 28, and for a week or ten days he was quite free from pain and had good nights. Gradually he returned to his old condition of pain, numbness and spastic gait.

In the latter part of September his teeth were roentgen rayed and one abscess found. This tooth was extracted and the socket curetted. Following this, for twenty-four hours, he again apparently had relief. After twenty-four hours, however, his pain returned, when the alveolar process was cleaned out, irrigated and packed. Early in September he was seen by a competent orthopedic surgeon in consultation, and it was agreed that he must have an infectious arthritis of several of his lower thoracic joints. A brace was made and afforded slight relief.

October 31, a blood Wassermann was taken and proved negative. Lumbar puncture was done and but 1 c.c. of blood-stained fluid was obtained. The entire quantity was used for the Wassermann, which proved negative.

A neurologist saw him about November 12, and following are extracts from his notes: Examination: Patient was a man of 30 years, poorly nourished, eyes in normal position, pupils react to light and accommodation and are regular in outline. Epigastric, hypogastric and cremasteric reflexes are absent. Buttock phenomenon is quick on the right. Knee kicks are lively on both sides, exaggerated on the right. There are ankle clonus and patellar clonus present on the right side. The plantar reflex gives a quick dorsal flexion of the great toe, with no fan-shaped spreading of the other toes. There is definite weakness of the right leg, with suspicion of toe drop. There is inability to extend the right leg on the pelvis. Sensation: From the region of the ninth dorsal caudalward definite sensory changes are noted on the right side. Anteriorly there is hypoalgesia from a line 1½ inches above the umbilicus downward. There is an area of hyperalgesia, indefinite in outline, above this. On the left side anteriorly there is hypoalgesia, which in places amounts to analgesia, associated on both sides with an apparently normal tactile sense.

On the data he had at hand, a diagnosis of a possible meningeal neoplasm or an inflammatory cyst in the region of the ninth dorsal segment was made.

The patient's condition progressed. Finally, on November 24, he was sent to Dr. Spiller of Philadelphia. On December 6, Dr. Spiller wrote: "There can be no doubt that there is a lesion of the spinal cord, located about the eighth to the twelfth thoracic segment inclusive, located chiefly on the right side. Paralysis of the right lower limb is greatly in excess of the left lower limb. Pain and temperature fibers from left lower limb are all paralyzed, whereas corresponding fibers from right lower limb are preserved in second to fifth sacral segments.

Operation has been advised and the patient told that there was great danger that the lesion would extend. It is difficult to determine the nature of this lesion. It seems to be connected with trauma, and I think especially of pachymeningitis, but of course it may be tumor, serous meningitis or even an intramedullary growth. The poor fellow is in a very serious condition.

December 21 he wrote: "Mr. A's condition is now that of a complete transverse lesion at about the eighth thoracic segment, and laboratory findings of blood and spinal fluid have showed a positive Wassermann reaction in both and a positive gold sol reaction of the fluid. The last lumbar puncture taken two or three days ago showed a deep yellow color of the fluid."

December 26 Dr. Spiller again wrote: "Dr. Fraser operated on Mr. A. today. He had what I told you I feared was present: the pia of the eighth thoracic segment was much thickened and the cord was a little enlarged at this segment and was soft. When a longitudinal incision was made for a short distance in the middle of the posterior column very superficially the softened cord protruded.

January 11 he wrote: "The anesthesia increased in Mr. A. before the operation from the eighth segment to the sixth. Hematuria also returned before the operation. Since operation the hematuria has entirely disappeared, and the anesthesia has returned to about the eighth segment. He is eating and sleeping well and seems quite cheerful. Drainage was used for a few days, but I cannot believe that a long continuation of drainage would be advisable. Further laboratory studies have strengthened the evidence of syphilis, and he is having a mild antisyphilitic treatment. His condition when he first came was that of an imperfect Brown-Séquard palsy. Syphilis is a most common cause of this complex."

Indirectly, I heard that Mr. A. survived until early in February, finally dying. I am sure no postmortem was done. No further report has been received.

The lesson taught by this case would seem to be in the main that, had a diagnosis been made of syphilitic meningo-encephalitis at an earlier date, life might have been saved, but this seemed not to have been possible in the absence of luetic history and of blood and spinal Wassermanns until such a time as his condition was beyond hope.

Dr. Wallace, in discussing: When I saw patient in the fall he was suffering from definite arthritis of lumbar spine, together with considerable rigidity of lumbar muscles. There was also dragging of right toe. When the cavity of the tooth was filled with débris patient's symptoms were worse; when that was washed out he seemed better.

Dr. F. B. Utley: Through the courtesy of Dr. Bixler I saw the patient in the afternoon of July 14, 1917, following an attack of severe colicky pain over left renal region, radiating forward to a point opposite left anterior supra-spine. Attack was accompanied by nausea but no vomiting. Examination of urine at this time was normal. Patient suffered three similar attacks during the next two days, being relieved only by large doses of morphin hypodermatically. Patient was transferred to St. Francis Hospital, where a roentgen-ray picture was taken of the kidney region and of the spinal column, which was negative. Wassermann was also negative. Patient left hospital in ten days considerably improved, but with some stiffness in back, diagnosis being made of myalgia of the lumbar muscles, intercostal neuralgia on a toxic basis due to absorption of gastro-intestinal tract, as patient had much gastro-intestinal disturbance with considerable indicanuria.

Report of Two Cases of Meckel's Diverticulum. Dr. F. L. Todd: The first was a young woman, aged 27, married, nullipara, who suffered from periodic attacks of pain in the abdomen. First attack happened two years ago, and patient was in bed two weeks. Stomach was kept empty and ice bags applied to abdomen. The attack as described by her was very like an acute attack of appendicitis, beginning with vomiting and indefinite pain in the abdomen, which was not relieved by vomiting. In eight months she again had an attack similar to the first one, but more severe and of longer duration.

I saw her in her fourth attack ten months later, which was severe so far as pain was concerned. There was marked tenderness over all of the right side of abdomen, and sharp pain at top of left shoulder. Abdomen was distended and pyriform. Pulse, 110; temperature, 100.4. Expression of face anxious. Bowels were not constipated, but there was no evidence of peristalsis. At the conclusion of this attack the patient consented to operation because she dreaded another attack of pain. An exploratory laparotomy was done. Appendix was small and hard, with firm inflammatory adhesions. Near the middle of the abdomen there was a large mass consisting of omentum and intestines bound together. Near the surface of the mass adhesions were not very dense and could be separated without difficulty. In the center of the mass there was found a Meckel's diverticulum about 5 inches long, also the portion of ileum from which it arose was at least four times the dimension of the normal bowel for a distance of 5 or 6 inches. The immediate neck of the diverticulum was quite narrow, about half an inch in diameter. The entire diverticulum had been inflamed, as was evidenced by the firm adhesions of omentum and intestines to it. At time of operation the viscus was filled with mucus. The appendix and diverticulum and part of the omentum were removed, the abdomen closed and patient quickly recovered, and has remained well during the five months that have elapsed.

The second case was a man 38 years of age, single, who was seized with pain in his right groin accompanied by nausea and vomiting. He soon noticed a small tumor just below Poupart's ligament, which was tense and quite painful. Examination revealed a femoral hernia about the size of a hen's egg, which was quite tense and irreducible. The patient was put to bed and ice kept on the hernia until morning. In the morning a slight degree of distention of abdomen was noted. No peristalsis could be elicited. The abdomen was sensitive all over. Pulse, 120; temperature, 101. Face wore the anxious look which usually goes with strangulated hernia. When the hernial sac was opened, instead of finding omentum as was expected, bowel was found which could not be returned to the abdomen until the ring had been enlarged. Before returning the bowel into the abdomen it was drawn down to ascertain in what condition it was, and my surprise was genuine when I found I had a Meckel's diverticulum 6 inches long. The distal 3 inches was almost gangrenous and shriveled. The diverticulum was removed, the ring closed.

Frederick B. Utley, Reporter.

COUNTY SOCIETY REPORTS

THE SEVENTEENTH CENSORIAL DISTRICT MEETING

The fifteenth annual meeting of the Seventeenth Censorial District was held in the courthouse, Bloomsburg, September 5, with a fair attendance considering the number of physicians in the district engaged in the government service and the threatening weather in the early morning. The registration was as follows: Columbia County, 25; Montour County, 5; Snyder County, 2; Northumberland, 1, and Dr. T. L. Deaver of Syracuse; making a total enrolment of 34.

The morning session was opened at 11 o'clock, with the president, Dr. J. W. Bruner, presiding and Dr. L. B. Kline, secretary. Dr. Frank R. Clark, vice president of the Columbia County Society, delivered the address of welcome, in which he spoke of the advance in medicine, especially the more thorough organization of medical men. It was a hearty welcome he accorded the visiting physicians. Response to the address of welcome was made by Dr. James E. Robbins, Danville, in which he expressed the pleasure afforded the members of the profession to meet with the physicians of Columbia County. Before proceeding to the election of officers a resolution was adopted providing that the officers elected at each annual meeting should be inducted into office at its close, to serve for one year. The officers elected for the coming year were: president, Dr. G. E. Hassinger, Middleburg; secretary, Dr. L. B. Kline, Catawissa.

A paper on "Bronchial Asthma," by Dr. Percival Herman was, in his absence, read by Dr. J. H. Bowman. Dr. Herman claimed that the profession too often failed to give the careful attention to this disease that its importance demanded, thus giving a wide field to the quacks and patent medicine venders. The discussion was opened by Dr. J. E. Robbins.

At this time the members adjourned for dinner at the Exchange Hotel, special arrangements having been made by providing a single table for all.

At the afternoon session, at 1:30 Dr. Tennyson L. Deaver of Syracuse, N. Y., read a paper on "Anomalies of the Genital Tract, with Special Reference to the Formation of an Artificial Vagina." He presented the subject from a physiological, anatomical, moral and social viewpoint, together with a careful and practical description of the operative procedure, which was greatly appreciated by his hearers. This was discussed by Drs. H. L. Foss, J. S. John, and others.

"Advancement in Surgery and Medicine, Fads and Fancies," was read by Dr. George W. Reese, Shamokin, in which he forcibly rendered a high tribute to the leaders of the profession fifty and more years ago, claiming that in many ways less progress has been made in scientific medicine and surgical procedure than is generally imagined. He cited specially certain diseases whose ravages have not been thwarted, and no preventive or cure discovered, such as tuberculosis, cancer, pneumonia, etc. He stated that many new discoveries had failed to stand the test, being discarded as fancies; or if they were taken up and advocated became a fad with the authors. The Carrel-Dakin method received slight praise at his hands. Drs. H. L. Foss and T. L. Deaver discussed the paper.

Capt. Henry Bierman of the M. R. C., U. S. Navy, and president of the Columbia County Medical Society, being home on his first furlough, after a service of eight months, was present and favored the meeting with an address on "Camp Life and the Work of the Surgeon." It is his duty to weed out the unfit and place them in their proper class, also to look after the sanitary conditions of the camp, in order that the men may be kept in good physical condition He stated that Camp Sheridan, where he is located is remarkably free from flies, and in every respect an exemplary camp; he also spoke of the duty resting on the home people toward the soldiers, in the way of writing letters filled with good cheer. Capt. Bierman was given a most cordial welcome.

The following resolutions presented by Dr. L. B. Kline, were unanimously adopted:

"Whereas, Upwards of forty, out of a total of 185 physicians of this Censorial District have voluntarily and patriotically responded to the call of our Government, and been enrolled in the Medical Officers' Reserve Corps of the U. S. Army, it is right and fitting that, assembled as we are in the fifteenth annual meeting, we should pay a tribute of respect and honor to those who so nobly represent the medical profession, therefore be it

"*Resolved,* That we extend most hearty greetings and express our best wishes for their continued well being and success, in the essential and self sacrificing service they are rendering our soldier boys, in the world-wide conflict now raging.

"*Resolved,* That we feel assured they are accomplishing a work that is a mighty factor in the maintenance and upkeep of the physical and moral strength to the high standard shown in the energy and aggressiveness of the American soldiers in battle on the field, in the trenches or in the hospital, pledging our unfaltering devotion to the cause of freedom."

A vote of thanks and appreciation was extended to the speakers on the program. Adjourned to meet at Selins Grove, September, 1919.

Luther B. Kline, Secretary.

BLAIR—SEPTEMBER

The annual joint meeting of Blair, Huntingdon, Clinton, Clearfield, Bedford, Cambria, Center and Jefferson County Societies met in the Tyrone Y. M. C. A. Hall on September 11 at 3 p. m. Seventy-eight physicians from these surrounding counties were present.

Dr. M. Howard Fussell of Philadelphia read a paper on "Medical Treatment of Some Abdominal Conditions." Dr. John L. Atlee of Lancaster followed with a paper on "Preparation for and Post-operative Treatment of Abdominal Conditions." Both papers were discussed by Drs. A. Nason, Free, Howell and Waterworth.

Following the discussion the members and guests retired to the banquet hall, which was decorated in patriotic colors and enlivened with patriotic music by the orchestra, where they were served a delicious repast by the Ladies' Aid Society of the First Presbyterian Church. Tyrone has become noted among the physicians for doing things well, having made the meetings profitable and entertaining.

C. W. Burket, Reporter.

WARREN—SEPTEMBER

The Warren County Society met at the home of Dr. Kelley, Chandlers Valley, September 16, with fourteen members in attendance.

Dr. W. M. Robertson reported a few cases from his surgical practice. He has had considerable success with chlorid of zinc as an application in malignant growths, with and without operative procedure. When the tumor can be removed by the knife the zinc is injected under the flap, the idea being to cause a large slough and thereby to seal up the lymphatics. He believes the zinc acts better than heat or other chemicals. In one case of mammary cancer with considerable pain, great relief was obtained by this treatment, although the case was inoperable from a surgical standpoint. The doctor also gave a review of Dr. Porter's little book on "Shock."

Dr. Kelley exhibited a patient with rheumatoid arthritis, who had received several intravenous injections of a solution of formaldehyd. The patient has less pain, but the time is too short to note any real change in the deformed joints.

The question of closing offices on Sunday was discussed.

M. V. Ball, Reporter.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1918, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Chlorcosane-Squibb.—It complies with the standards for chlorcosane, N. N. R. Chlorcosane is a liquid, chlorinated paraffin containing its chlorine in stable (non-active) combination. It is used as a solvent for dichloramine-T and is itself without therapeutic action. E. R. Squibb and Sons New York.

Thromboplastin Solution-Armour.—An extract of cattle brain in physiological sodium chloride solution prepared according to the method of Hess. It complies with the description of Solution Brain Extract, N. N. R. As a hemostatic, the solution is applied directly to bleeding tissues or applied by means of a spray or tampon. See New and Nonofficial Remedies, 1918, p. 136, under "Fibrin Ferments and Thromboplastic Substances" (Kephalin). Armour and Co., Chicago.

Corpus Luteum Capsules, 2 Grains.—Each capsule contains 2 grains of corpus luteum-Armour (see New and Nonofficial Remedies, 1918, p. 237). Armour and Co., Chicago.

Salipyrine Tablets, 7½ Grains.—Each tablet contains 7.5 grains of salipyrine (see New and Nonofficial Remedies, 1918, p. 275). Riedel and Co., New York.

Antipneumococcus Serum Type 1, Gilliland.—It is marketed in vials containing 50 c.c. The Gilliland Laboratories, Ambler, Pa.

Phenylcinchoninic Acid-Abbott.—A brand of phenylcinchoninic acid, U. S. P. (New and Nonofficial Remedies, 1918, p. 269). The Abbott Laboratories, Chicago.

Parresined Lace-Mesh Surgical Dressing.—Net mesh gauze impregnated with and containing from 45 to 50 per cent. of parresine (see New and Nonofficial Remedies, 1918, p. 247). The Abbott Laboratories, Chicago.

Halazone-Squibb.—A brand of halazone complying with the standards for halazone, N. N. R. It is marketed only in the form of Tablets Halazone-Squibb, 1⁄16 grain, each containing halazone-Squibb, 1⁄16 grain, anhydrous sodium carbonate, 1⁄16 grain, and sodium chloride, 1⅗ grains. Halazone tablets are used for the sterilization of drinking water, one to two tablets being added to one quart of water. E. R. Squibb and Sons, New York (*Jour. A. M. A.*, Sept. 28, 1918, p. 1059).

PROPAGANDA FOR REFORM

An Italian View of the Proprietary Evil.—A Murri, professor of clinical medicine at Bologna, protests against the way he is importuned to prescribe only made-in-Italy pharmaceuticals. He declares his unswerving patriotism, but insists that the physician's duty is to prescribe that which is best to restore the health of his patients. He holds that to elevate the pharmaceutical industry of Italy, there must be founded a supreme council of chemists, pharmacists and clinicians who will examine the made-in-Italy pharmaceuticals with the severest scientific impartiality (*Jour. A. M. A.*, Sept. 7, 1918, p. 840).

Dr. A. W. Chase's Nerve Pills.—According to the label, these pills are "used in the treatment" of "thin and watery blood, nervous disorders, brain fag, nervous headache, nervous dyspepsia, irregular heart action, sleeplessness," etc. A circular in the box calls attention to the use of these pills in the treatment of almost everything from pale, sallow complexion, to paralysis and locomotor ataxia. An analysis made in the A. M. A. Chemical Laboratory indicates that "Dr. A. W. Chase's Nerve Pills" contain iron, possibly in the form of ferrous sulphate which is in a state of more or less decomposition, manganese dioxid, aloes or aloin, vegetable extractive, and a trace of an alkaloidal drug (*Jour. A. M. A.*, Sept. 7, 1918, p. 844).

Two Misbranded Nostrums.—Brazilian Balm, directly or inferentially, was claimed to cure consumption, prevent lockjaw and "clear out of the system" the germs of typhoid and diphtheria. A shipment of the nostrum was seized by the federal authorities and ordered destroyed by the court.

Wright's Indian Vegetable Pills were claimed to cure yellow fever, smallpox, erysipelas, consumption, cancer, venereal disease, paralysis, epilepsy and other conditions too numerous to mention. The government, having seized a shipment and charged that the claims were false, the proprietors of the pills admitted the allegation (*Jour. A. M. A.*, Sept. 7, 1918, p. 844).

Bitro-Phosphate.—The A. M. A. Chemical Laboratory reports that this appears to be a five-grain tablet of calcium glycerophosphate. Since a bottle containing forty-two tablets sells at one dollar and this price is sixteen hundred per cent. greater than the cost of the calcium glycerophosphate contained therein, it is asked if this comes within the excess profit tax. The claims made for Bitro-Phosphate are those which were made for calcium glycerophosphate when it was erroneously supposed that organic phosphates were more readily assimilated than inorganic phosphates. Bitro-Phosphate is sold by the Arrow Chemical Company. E. S. Prather, the present owner of this company, has been interested, directly or indirectly, in a considerable number of questionable products and schemes (*Jour. A. M. A.*, Sept. 14, 1918, p. 921).

THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

Volume XXII
Number 2

Athens, Pa., November, 1918

Subscription:
$2.00 Per Year

ORIGINAL ARTICLES

WAR AND THE CHILD*

SAMUEL McC. HAMILL, M.D.
PHILADELPHIA

I have worded my subject as it has been announced with a view to having you think of the child as part of the problem of this great war.

At the beginning of the war, as would naturally be expected, the interest of the people and their governments was centered upon problems that were directly connected with the development and maintenance of their armies. The result was that the problems of civil life were neglected. The welfare agencies that were dependent for their existence upon the voluntary effort and contributions of the people lost both their workers and their finances. The contributions to war loans, the maintenance and carrying out of the work of institutions such as the Red Cross left the ordinary private agencies of civil life stranded. The withdrawal of physicians and nurses trained and working on public health problems handicapped the activities of governmental institutions. Some private agencies went out of business, all of them curtailed their work, the governmental departments became less efficient, as the result of which sickness and death among infants and children increased rapidly. Not only this, but modifications in the laws governing education and child labor, together with lack of legal and parental supervision, resulted in an alarming degree of delinquency.

Our own country followed in the footsteps of the other warring nations during the first year of our participation in the war. We, too, centered our attention upon the building and maintaining of armies, and we, too, forgot our civil population. There were those, however, who had full knowledge of the experiences of the children of other nations. Through their influence these conditions were placed before the President of the United States. Impressed by the dangers that were threatening, he decreed at the request of the Children's Bureau of the U. S. Department of Labor that the second year of our war be especially dedicated to the interests of the child, and so announced to the world through the medium of a proclamation.

What was there in the message that went to him that justified him in appealing to the people of the nation to do everything in their power to protect the lives and health of their children? The answer comes from the experience of the nations that have fought in this war since its beginning, and relates to the effect that the war has had upon their populations.

What has this effect been? We cannot answer that question accurately for any country, and for the majority we have no answer. That it has been destructive to an extraordinary degree in all countries is a certainty.

The massacres in Armenia directly due to the hellish barbarism of the Hun, the slaughters in Belgium, Poland, Serbia and other relatively small nations, even the destruction of millions of Russians, are not of as much importance in their bearing on our future as are the results that have accrued in Germany, France and England. For these countries, too, we have a few figures. Though old and to some extent inaccurate, they are nevertheless full of meaning.

As far back as Aug. 1, 1917, the casualties in killed in Germany had been more than 2,000,000; in France more than 1,500,000, and in England, even though she was compelled to build a huge modern army from practically nothing and consequently enter into the conflict more gradually, her casualties had been about 400,000.

Even were the story to end here we would be justified in urging upon the people of the nation the importance of saving the lives of our children. But it is not only the casualties of the killed and wounded in battle that makes for the destruction of populations in time of war. There is another factor even more menacing, and that is the extraordinarily rapid decrease in the birth rate.

In the year 1916 the birth rate in Germany was 40 per cent. less than the birth rate in 1913. In round figures, this meant that there were 735,500 fewer births in 1916 than in 1913. As has been said, the total casualties in killed in Germany up to August, 1917, was 2,000,000. If the fatalities of battle were the same for each

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*Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

of the first three years of the war, the deaths from battle in 1916, plus the deaths of infants under 1 year, would amount to 802,166. The births in 1916 amounted to 1,103,250, or only 301,184 in excess of the deaths of infants under 1 year of age, plus the deaths in battle. In America the infant death rate represents about one-fifth of the total death rate. If we may assume the same ratio for Germany, the deaths for other age periods in 1916 would have amounted to 663,600, making the total deaths for the year exceed the births by 362,516.

This, remember, was more than a year ago, and this is basing the fatalities at all ages above infancy in civil life on the death rate of normal times.

What has happened in Germany in the past year we know full well. Her casualties of battle have been indescribably high. She has experienced intense suffering and epidemics of certain types of diseases in her civilian population which cannot have failed to have enormously increased her civilian death rate. If the deaths exceeded the births by almost 400,000 in 1916, it is safe to assume that the excess of deaths over births has probably doubled in the past two years.

This is the effect that war has had on the population of the country which had one of the highest rates of increase of any of our great nations of the world prior to this war.

What of poor, bleeding France? The birth rate in France in the year 1913 was 18.8 per 1,000 population. In 1916 it had been reduced to 8.6 per 1,000, representing a decrease of 405,294 births in a single year. The experiences of 1916 were almost duplicated in 1917, and as a result for those two years the deaths in France were in excess of the births by more than 1,500,000. Before the war the births in France were slightly in excess of the deaths.

As has been said, England up to August, 1917, had been less seriously affected because of the slower development of her armies and their delayed participation in the conflict, but even in these circumstances England's birth rate was 15 per cent. less in 1916 than in 1913, which, when placed beside her 400,000 killed in battle, demonstrates a very rapid decrease in her rate of increase of population. What England has suffered in her casualties in battle since that time can be surmised from the character of the fighting she has done since 1917 and what has happened to her birth rate since 1916 can be imagined when we realize that she has sent to the various fields of action practically every man that can be spared from the necessary activities of the nation. A nation the size of England, deprived of several millions of its young and virile men, must necessarily experience the same reduction in its birth rate that has befallen Germany and France. So, in all human probability, the year 1918 will show an excess of deaths over births in England too.

What has happened in England, France and Germany must happen to us also, and our destruction of population will depend upon the duration of the war. We are building an army of 5,000,000. We expect to have the bulk of that army in France and Russia by the end of the year 1919. With 5,000,000 men on the fighting line, the casualties in killed and wounded will necessarily be great. And with 5,000,000 men taken out of civil life, the reduction in the birth rate will be tremendous.

It is because we face these dangers that the President of the United States has found it necessary to point out to the nation that the conservation of the lives and health of our children is absolutely essential. In this country we face not alone the casualties of battle. Indeed, we have already experienced a rapid decline in our rate of increase in population by the complete cutting off of immigration, a source from which we acquired an increase in 1913 and 1914 respectively of 1,197,892 and 1,218,408.

Every warring nation at the end of the first year of the war was able to understand something of the ultimate effects of war. They understood also that the conflict was destined to last through an indefinite period of years; and when they began to count the cost they discovered that their neglect of the problems of the civil population had meant to each of them an enormous increase in the infant death rate. They began to understand better than they had in the beginning that there was one way, and only one way, of partially stemming the tide of destruction that faced them, and that was through the saving of the lives of their children. A campaign to this end became a part of the program of every government. The normal machinery for saving the lives of children (the health departments with their equipment and the welfare stations conducted by private interests) had been tremendously handicapped. The withdrawal of physicians and nurses necessitated instant curtailment of the activities of health departments and greatly hampered the work of private agencies. The latter were still further embarrassed, and many of them compelled to close their doors, because of lack of financial support.

It became necessary for government health agencies to create a new working force in order to continue the activities they had been conducting. Indeed, the threatening destruction of population made it necessary for them to save the lives and maintain the health of children as they had never done before.

England, whose problems are more nearly akin to ours, increased her health appropriations. The Local Government Board appropriated funds for the maintenance of all efficient private agencies, and appealed to the men and women of the nation to render personal service and financial support in the campaign for the preservation of the lives and health of the children. The response in England was immediate. Many women (and it is really upon the efforts of the women of the nation that the saving of the lives of our children largely depends) entered into training for various kinds of health and welfare work. The ranks of workers that had been depleted were filled to overflowing. England was able in consequence to extend the work beyond that which she had been doing prior to the war. As a result of the government appropriations, the wise guidance of Sir Arthur Newsholme, and the splendid paid and volunteer service of the women of England, the infant mortality in the year 1916 attained the lowest point that has ever been known in the history of England.

Even benighted Germany rose to the emergency, and in the year 1916 reduced her infant mortality to a point 40 per cent. below the mortality of the year 1913. In 1916 in Berlin alone there were 5,000 women working on the social problems of that city, having as their direct object the preservation of the lives and health of the children.

The procedures that have been followed in both Germany and England, and are now being followed by those who are directing the work of the Red Cross in the civilian population of France have been the establishment of child welfare stations, an increase in the number of child welfare workers who act through the medium of the stations and render their most efficient service by their work in the home. England has extended her corps of health visitors for the work of the smaller towns and rural communities; educational literature has been published and widely distributed; child welfare exhibitis have been established and widely shown. In short, every avenue of education that is available has been applied to the needs of these various countries. Care of the pregnant woman has come to have a newer meaning and a broader application than ever before. Indeed, no period of life from the time of conception up to the period of adolescence has been neglected. The laws governing education and child labor, which had been made less severe in the beginning, have been reestablished, and in England, France and Italy, extensive systems of recreation have been created for the diversion of the young during their periods of rest.

These various procedures have been possible in the allied countries. In Germany, however, all the evidence tends to show that delinquency in its various phases has become rampant, and that infant mortality, which for a time had been controlled, has again become a menacing factor.

Out of all these experiences America must learn something. Indeed, America has learned much.

Before the war child welfare had not received the consideration that it should have in any part of the world. This was true of America as well as of other countries. Nevertheless, there had been a rapidly growing interest here, and in a few of our larger cities (notably, New York and Cleveland) child welfare work had been very highly developed.

It is a matter of some interest and worthy of mention that the first state in the country to include child welfare as one of the important factors in its war program, was the state of Pennsylvania, which established a Division of Child Welfare in its Committee of Public Safety. Indeed, there were practically no states in the country with the exception of Massachusetts that had begun to consider the problems of the welfare of the child until well on in the summer of 1917. And there was no country-wide provision made for the welfare of the children of the nation until the organization of the Woman's Committee of the Council of National Defense. This committee established a Division of Child Welfare and entered into cooperation with the Children's Bureau, to act as the agent of the Children's Bureau in the organization and direction of child welfare in the various states through the medium of the state divisions of the Woman's Committee. It is impossible to determine at the present moment what the effect of the work of this organization is; but unquestionably, it has stimulated a very active interest in some of the states, and doubtless some interest in all of the states.

Pennsylvania has not followed the guidance of the Children's Bureau in this work because Pennsylvania had created its organization, determined the personnel of its committees, established its plan of work, and gotten work under way in some of the counties before the Woman's Committee was created. The decision to continue the procedure determined upon in Pennsylvania was reached after conference with the executive chairman of the Child Welfare Division of the Woman's Committee and the chief of the Children's Bureau. The Pennsylvania plan had the same object in view as the plan of the Children's Bureau; namely, the maintenance of the health and welfare of the children. It was felt that if it was attempted to supplant the work that had been begun by a new order of things, it would lead to confusion and delay in obtaining results.

In beginning this work Pennsylvania faced and, indeed, still faces a very serious and difficult task. In the year 1915 the infant mortality for Pennsylvania was 110 per thousand living births, which placed it second to the state of Rhode Island, which had the highest infant death rate within the registration area.

In 1916 Pennsylvania's death rate had increased to 113 per thousand living births. One would naturally expect that this rate was established by the high mortality in our cities of the first class. This was not true, because in Philadelphia the rate was below the average for the state and in Pittsburgh the rate was exactly the same as the average for the state in 1915.

Pennsylvania has an exceedingly large foreign population. The bulk of this foreign population lives in small towns and rural communities in the mining regions of the state. In many places the housing conditions are unspeakably bad and overcrowding is very common.

Intemperance is widespread, and intemperance leads to poverty and neglect.

When one adds to all of these factors an absolute lack of knowledge of the methods of caring for children, one has a combination which causes not only a high infant mortality but also a most difficult condition to remedy.

Indeed, to establish conditions that will yield normal health to the child means the practical rehabilitation of numberless communities.

It is quite easy to understand, in the light of these facts, how hard it is to bring about a reduction in the infant death rate that will compare favorably with reductions that are possible in the states with small alien populations and few or no mining industries.

However, the task is not hopeless and Pennsylvania is struggling with the problem.

The method that is being followed to this end can be best described by reciting the history of the organization, personnel and plan of procedure of the working forces.

The Pennsylvania Council of National Defense and Committee of Public Safety after its creation established its subcommittees for the state, divided the state into units corresponding to the counties and in each county provided for a series of subcommittees corresponding to its state committees.

Following out this line, the Child Welfare Division appointed committees on child welfare in each county, including in their membership the local representative of the State Department of Health, the local health officer, physicians especially interested in the problems of the child, representatives of any child welfare or public health nursing agencies in the county, representatives of the women's clubs and some influential business or professional men who might be interested in the problems of the child.

Each county was organized for work by subdivision into smaller units corresponding to the school districts, and in each of these districts one or two representative women were selected to organize the women of that district into an association for the protection of the health and welfare of the children of the community, as a war measure.

After this procedure had been worked out, the Pennsylvania Division of the Woman's Committee of the Council of National Defense was created. The plan of organization adopted by the Men's Committee was followed by the Woman's Committee. But, owing to the farsightedness of the chairman of the Woman's Committee, the women were not organized as a separate unit, but as an auxiliary to the men's committee.

This meant that the state director of child welfare for the men's committee continued to direct the work for the welfare of children for Pennsylvania, the director for the woman's committee serving as a vice-chairman.

It meant, further, that each county had but one director approved by both committees, and, therefore, but one child welfare committee for the conduct of the work of the county.

It also meant that added to the forces that had been created, the Council of National Defense and Committee of Public Safety was given the unanimous and invaluable assistance of the women of Pennsylvania in its work.

After the coordination of these two committees was accomplished, the Pennsylvania Department of Health was appealed to for its cooperation. Following a series of conferences, it was decided by the late lamented commissioner, Dr. Samuel G. Dixon, that the State Department of Health should create a Division of Child Hygiene, that the director of child welfare of the Committee of Public Safety should become its chief, and that the plan of procedure for the division should be that which had been adopted by the Committee of Public Safety and the Woman's Committee of the Council of National Defense.

The only change resulting from this decision was that the work was to be directed from the new division of the State Department of Health and to be carried out by the lay groups represented in the membership of the child welfare committees of the various counties.

This is a unique organization and far in advance of any of the organizations that have been established in any of the states of the nation. It places back of the work the authority and prestige of the State Department of Health; it makes possible the financing of trained workers to guide the local county committees in the development and conduct of their work; it places at the disposal of the child welfare committee the vast state-wide machinery of the State Department of Health for the cooperation and furthering of the work of the Division of Child Hygiene; and, finally, it places the direction of the work where it belongs and in the hands of the only agency qualified to conduct it after the termination of the war.

Its unique feature is the unusually close cooperation between a state department and state-wide lay organizations. The educational value of this cannot be overestimated.

The detailed procedure of the organization is extensive and varies according to the problems of the different counties of the state. The function of the county committee is not to carry on work in competition with existing agencies, but rather to coordinate, stimulate and use its influence to aid in the extension and support of the work of such agencies, and to create new agencies only in the counties in which there are no child welfare activities, or where existing agencies feel that they cannot expand to meet the needs of the communities.

It takes a long while to build up an organization of this character. It is impossible to obtain satisfactory results through the medium of correspondence and circulars of instruction. Either a conference with the chairman of the Child Welfare Committee, or a visit to the county, is essential to get the work under way and revisitations are necessary to keep the committees moving.

Within a few days, practically every county of the state will have been visited, and some of them several times. The interest in the work is growing rapidly, and as quickly as the State Department of Health can secure workers to aid in the development of the work, they will be attached to the committees of the various counties.

One of the most necessary things for the organization to accomplish at the present moment is the education of a group of volunteers to aid the trained workers of the state in carrying out the child welfare program. We have already established one such school. We plan to create four or five more. But in order to meet the needs of the groups in the counties remotely situated we are appointing a nurse broadly educated in public health and child welfare work who will go about from county to county to aid in the establishment of child welfare stations, and more especially, in the instruction of volunteers.

We have at the present time representatives who are visiting the county committees to aid them in unraveling their special problems and in pointing out to them the most effective means of securing the cooperating of and aiding in the coordination of the work of existing county agencies.

It is an interesting observation that as this work develops in one county its influence for good extends to the adjacent counties. We believe that the longer the work continues the more rapid will be its rate of development.

This has been a rather desultory description of the work of the organization now interested in the maintenance of the health and preservation of the lives of the.children in Pennsylvania.

If this great work is to meet with a full measure of success, it must have the cooperation and active support of the medical profession. Indeed, we have already had most gratifying cooperation from the physicians in some of the counties. We know, of course, that every medical man is overburdened at the present time, and that each day is adding new weight to his shoulders. But the children must be saved. As Dr. Holt has rightly said, "The nation is beginning to suspect, if not to realize, that even more essential to its permanence than progress in science, politics or industry is the health of its people, especially its children."

The maintenance of the health means the education of the public in the art of keeping oneself and one's children well. Those who are qualified to teach these very necessary lessons are the physicians and the nurses—the physician by advising the county committees, by public addresses and by aiding in the conduct of

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child welfare stations where he can examine the children that are brought to him, determine their physical needs, and through the nurse advise the mother in the general care and feeding of her child.

This will be an extra call upon the physician, but everyone of us must bear greater burdens today than ever we have done before.

The children are calling to us, and *this war is being fought for the children of the world.* Did you ever stop to consider this fact?

A short time ago an American Colonel of Engineers who spoke French fluently was called upon to address 3,000 French children who were gathered together in attendance upon some festival. He said to them: "You remind us of millions of little American children; and do you know why we have come all the way across this great ocean to fight in this war? We have come to fight for our little children—not only for our little children, but also for you. Indeed, we have come to fight for all the little children of the world, to fight that the world may be a safer place for them to live in. We have come to lay down our lives if need be, that they may be saved."

The great Master of men has said, "Greater love hath no man than this, that a man lay down his life for his friends."

If the men who have gone over there love you and me and the children we have borne with such a love as this, and they are willing to die that our little children may live, what will we do for their children and all the little children in this great state of Pennsylvania?

It has been so ordained that some of us will not be privileged to fight, perchance, to die upon the battlefields of France or Flanders that the little children may live; but it is given to each of us that remains behind to sacrifice much that those for whom our heroes die may be kept in health and strength through childhood and youth to take their places in the work of the world in the years to come.

Let this thought enter your minds and when you return to your homes get in touch with those who are fighting for the children over here, and see how you can serve as a soldier in the war against ignorance, poverty, crime and intemperance. There is work for every physician to do, and I am sure you would no sooner be found a slacker in this fight (which is essentially the doctor's fight) than you would be found a slacker in the great fight over there.

1822 Spruce Street.

THE REEDUCATION OF THE INJURED SOLDIER*

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The sporadic wounds produced in civil life have been multiplied by war into groups. The exceptional has become the ordinary. Torn and mangled bodies have to be patched and remade, and functions, lost or weakened, must be gradually coaxed back toward normal by means that in pre-war days we often neglected or even despised. Old conditions have come up with new names, and new conditions have had to be met by a rearrangement and application of old means.

Before the war physical therapy was in the hands of a few enthusiasts in the profession, but when the need became urgent, a cry was raised throughout England and France for medical officers who knew how to apply it, and the war will not be an unmixed evil if by its means these physical agents are more closely incorporated in the future practice of medicine and surgery.

Briefly stated, the conditions which must be treated are as follows:

Injury to peripheral nerves, all the way from the bruising of a nerve trunk to its destruction and restoration by surgical means. These injuries are accompanied by weakness or paralysis, muscular wasting, and contractures, conditions met by the application of wet or dry heat to keep up the circulation; support in proper position by splints, to prevent the overstretching of weakened muscles, and resultant permanent contraction of those that are unimpaired; galvanic, and afterwards faradic, stimulation of the affected muscles; massage to keep up or improve their nutrition, passive movement to prevent contraction and limitation of the normal range of the joints; progressive active movements, joint by joint, to bring back and strengthen voluntary power, and, later, gymnastic and vocational training to fit the patient to fill with skill and efficiency his place in civil life.

Scar tissue, either in preparation for, or after operation. The bullet may leave a small entrance wound, but its course through the tissues may leave great areas in which muscle, fascia, tendon, nerve, periosteum, and skin are matted together in one confused, distorted mass, strangling the circulation and leaving the limb blue, clammy, moist with continual perspiration, and so painful that the patient winces at the slightest touch. Such wounds are treated by the whirlpool bath, massage, and the stretching of beginning contractures by careful manipulation.

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

In all postoperative conditions, the cure must be completed by physical means. It is not enough to break down an adhesion or restore a joint to potential usefulness. Its nutrition must be improved, and the patient must be taught to use it. Even if it is possible to move it throughout its whole range, a cure is not complete until the patient can do this himself with power and skill. He must be taken through a course of reeducation, beginning with free simple movements, advancing to those that are harder and more complex. Devices for this purpose must be designed and employed to prepare him for the more complicated actions required by the craft he may elect to practice.

Functional neuroses, which take the form of palsies, contractures, loss of sight, speech or hearing, areas of anesthesia, or hyperesthesia, are frequent. Contractures are slowly stretched and kept in place by splints, systematically massaged and exercised by the faradic battery where voluntary movement cannot be obtained, and brought back to usefulness by a combination of hypnotism, suggestion, encouragement, and the gradual replacing of them by voluntary movement. The operator here must be both priest and physician, for the mental is even more important than the physical treatment, and these very real conditions, beyond the patient's control, in most cases, require persistent intelligent treatment, sometimes over long periods of time.

The conditions variously grouped under the name "shell shock" which vary all the way from minute hemorrhages into the brain substance, caused by concussion, to fear and intolerable weariness must also be treated by this means. They usually present a history of nervousness, frequently with enlarged thyroid, rapid pulse, and prominent eyes, and all such cases call for rest and sedative treatment, and the substitution of gentle massage and electricity for active movement at first, with a gradual increase of exercise, beginning with a slow walk and ending with gymnastic games and vocational training.

The "soldier's heart" is but a symptom of overstrain. The rapid pulse and breathlessness, the enlarged thyroid, all show the nervous origin of the condition. The faradic or high frequency current, the sedative bath, gentle massage and rest quickly reduce a rapid pulse rate and allow him to bear, without danger, an increasing load in the form of gymnastic exercise, walking, and manual labor.

Debilities, whether due to typhoid, dysentery, or exhaustion are built up again and made ready for active life by graded exercises of effort, like light gymnastics, and of endurance like walking, until they can stand the amount of work to which they were formerly accustomed.

Enough has been said to show that the majority of the men who fill our war hospitals and convalescent homes must depend for most of their present treatment, and for their future efficiency, on the masseuse, the practitioner of electro and hydrotherapy, the physical instructor, and the teacher of vocational training. The course usually followed begins with preparation by heat, either wet or dry, or produced by electricity, on through the stimulation of nutrition by massage and passive movement, then to simple exercise taken voluntarily and eventually to skilled movements by gymnastics, games and handicrafts, and graduating into industrial training.

The equipment necessary consists of:

The galvanic or continuous current.

The faradic or alternating current.

The high frequency current used in diathermy is useful in producing hyperemia in parts where the circulation is deficient and as a preparation for a massage or movement.

Radiant heat, applied by means of electric lamps and the cabinet, makes an excellent preparation for massage in scar tissue, myalgia, and in joints that are stiff and cold or rheumatic.

Hydrotherapy plays an important rôle in the treatment of the wounded man, as well as heat. (1) A sort of gymnastics of the circulation is given by the alternate use of heat and cold water in the Scotch douche or local contrast baths. (2) The full sedative bath at 94 F. lasting for an hour is of great value in shock and in heart cases. (3) The whirlpool baths, first used in France during the war, are the most valuable single appliance in the after-treatment of wounds. The arm or leg is plunged into a vessel containing water at about 105 F. which is circulated by jets, set at an angle, or by a propeller. Air is also introduced so that the limb is surrounded by a swirling bubbling current, the temperature of which is raised as high as 120 F. if the patient can bear it. The air bubbles increase the stimulant effect on the skin and the heat is applied to the surface far more surely by this means than if the water were still. These baths are particularly effective for painful stumps, painful scars, partial paralysis or, in fact, any condition which lowers the circulation and nutrition of the member.

Massage by light stroking is especially used in painful conditions and as a first procedure in a general treatment. It should be used about adherent scars, over effusions, and over surfaces in which the bone is close to the skin, as in the scalp. It acts as a nerve sedative and as a mild stimulant to the surface circulation.

More vigorous friction reaches the deeper parts, wakes up the circulation and forces it on mechanically. This manipulation is especially useful in reaching deep scar tissue and in stretching it.

Striking or beating is a surface or deep manipulation and is done in many ways. Vibration is a rapid form of beating, given by a vibrator. It is a stimulant to both nerve and circulation and in addition is most useful for stretching scars and tracing up nerve trunks.

Passive movements should be given by a trained operator, rather than by a machine. Their place is in the stretching of scars, increasing the range of stiffened joints, and in rehearsing all the movements of joints whose muscles are paralyzed or weakened. They are of value in detecting and preventing beginning contractures. Passive movements should not always accompany massage and may be contraindicated, as when a scar is incompletely organized. Here they may do great harm by breaking down the walls of vessels in course of formation in the scar and producing bleeding with subsequent further contraction. They should be slow and insistent rather than quick and jerky. They prevent adhesions from reforming after an operation for fibrous ankylosis.

Active movements may be free, but as a muscle works better against a certain amount of resistance, apparatus is necessary to measure the amount of work done and the distance the load is raised.

Most appliances for giving exercise are cumbrous and expensive, and it has been our endeavor to design machines that would fulfill the following conditions: (1) To isolate the movement and so prevent the mistaken idea of improvement when it is really another group that is doing the work; (2) to record the range of movement, so that both patient and the operator can follow the progress of improvement; (3) to measure the dose of work in terms of the number of contractions and weight raised; (4) to be simple and cheap in construction, so that they can be easily made by a good carpenter, and discarded when no longer required.

With this in mind, a standard set has been adopted for use in hospitals throughout Canada and the United States. They consist of the following appliances: For the upper extremities—(1) A finger board for stretching contractions and for giving abduction to single fingers; (2) a finger treadmill for voluntary flexion of single fingers against increasing weights; (3) finger pulleys for flexion and extension of all joints of the finger against increasing weights; (4) pulleys for thumb adduction and abduction against increasing weights; (5) a wheel for wrist circumduction, a stretching movement; (6) pulley for wrist adduction and abduction against increasing weights; (7) a roller for wrist flexion and extension, against weights; (8) a handle for pronation and supination, against increasing weights; (9) a triplicate pulley weight with handles at the ground, shoulder height, and above the head, for exercising the elbow, as well as (10) shoulder rotation; (11) shoulder adduction and abduction, flexion and extension; (12) a creeping board for stretching the shoulder joint in abduction. For the lower extremities—(1) Inversion and eversion of the ankle, (a) against increasing weights, and (b) by walking on treads inclined inward and outward; (2) dorsi flexion of the ankle against increasing weights; (3) rotation of the knee in flexion, against increasing weights; (4) circumduction of the ankle, a stretching movement; (5) knee flexion and extension; (6) hip adduction and abduction; (7) hip flexion and extension (the last three given on the triplicate machine); (8) a combination of thigh flexion, knee flexion, and foot dorsi flexion by means of an inclined ladder; (9) a combination of thigh extension, leg extension, and foot plantar flexion by means of a bicycle trainer.

Each of these exercises is repeated up to the point of fatigue and the improvement is marked on the scale of specially designed protractors, and by measuring the weight lifted and the number of repetitions.

Gymnastics should be considered as part of the treatment in most cases whether the recovery is complete or not; a contracted finger or a stiff knee should not prevent the patient from doing most of the movements in a gymnastic lesson. Several tables of Swedish remedial exercises have been designed for convalescents. As the patient improves, he is given simple dancing steps to music and so progresses to tag and other gymnastic games.

During this time of treatment his spare hours should not be neglected. Bedside occupations arouse the dormant interest in handicrafts and start the patient on the road to recovery in many cases. They prevent the formation of the "hospital habit" of idleness and can be begun by the trained aides early in his treatment, even before he can move about.

As soon as possible men should be set at some occupation in which they will use the affected arm or leg, not consciously, but to accomplish some definite task. Driving a nail, pushing a saw, or handling a spade will supplement and soon replace the more accurate but less interesting work of the treatment room. The clumsy fingers become nimble in typewriting, weaving, splicing or modeling, and the practice of these trades must be regarded as important parts of one general and progressive system of treatment.

Both the bedside occupations and the occupational therapy are hospital procedures, but to prepare him for civil life, he must graduate into industrial training, conducted after he is discharged from the Army as well as before he has left the service. And here there must be cooperation between the military authorities and civilian organizations who provide teachers and secure the employment by industries of these men, trained both in hospital and industrial school for the successful return to civil life.

2014 Pine Street.

THE CARDIOVASCULAR PROBLEM IN THE AVIATION RECRUIT *

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INTRODUCTION

Those who have had to examine candidates for the aviation corps cannot but be impressed by the quality of the recruit physically, and by the splendid spirit which had actuated the man in choosing service as an aviator. The high grade selective service, and not the glamour of adventure nor the fear of draft, attracted men to this department. Among the three most hazardous services in this war, aviators, lowest commissioned officers of the line and surgeons, aviators occupy first place. Of the men seen by us at the Pittsburgh station, a large number were college men, on a single day five men from the senior class of one of our leading colleges appearing for examination. Out of the large group examined by us, the highest number by far applied for the flying corps rather than for the other two services, that of balloon and ground work. We were privileged to examine for a short time only men for the selective balloon service, some of the men being anxious to secure this branch if they were unable to make the more desirable service of the aviator. The smallest number of men were enlisted for ground work and were mostly those near the maximum age for aviation recruits.

The greatest apprehension among all the candidates, and particularly that of the aviator, was fear of refusal. Those in whom there was any question as to physical disability were insistent upon having further expert opinion as well as follow-up work by roentgen-ray plates or blood analyses if permitted. Men with questionable thyroids producing cardiac unbalance of a doubtful degree, or those with old and latent tubercular lesions were persistent in securing further tests and study before accepting our decision, and this we allowed. From between eight and nine hundred examined at the Eye and Ear Hospital at Pittsburgh, the number accepted was consistent with that which is generally known, and which the men themselves were familiar with, that is: about 50 per cent. were passed by us as physically fit, while only 30 per cent. were finally accepted and sent to the U. S. School of Military Aeronautics. The attraction of this service drew a group of men between the ages of 19 and 31, exceptionally well-equipped both physically and mentally. The average age of the men who were candidates for the flying corps was little less than 24 years, although there was a large number between the ages of 19 and 21. The occupations of many of these men that impressed us as strikingly characteristic of their caliber were that of college students, traveling salesmen for large corporations, recently athletic college men, and instructors from various schools and colleges.

CARDIOVASCULAR ANALYSIS

This group, about a hundred in number, was analyzed from several points of view, but the analysis was confined entirely to the domain of physical diagnosis; such things as the preliminary heart examinations, recorded in the civil service examination presented; age of the in-

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

dividual; enlargement of the heart; the presence of murmurs or not; the finding of a subclavian murmur; blood pressure reading and the result of toxic factors produced by thyroid slight unbalance. The average age of these men studied was about 24 years plus, this including aviators, balloon men and non-flyers. Such a number of picked men at this age, having already been passed on by an examiner, would necessarily produce few with cardiovascular damage, and yet we were all impressed by the occasional appearance of a young man either with marked organic cardiac disease or a thyroid cardia in fine balance. When the size of the heart was studied by the ordinary measurements on the thorax, very few were found to show any appreciable enlargement and only those in whom we were able to fix true cardiac disease, although on auscultation many presented some types of murmur.

Attention was paid to the tonus of the muscle and cognizance taken of accentuations at the various valvular areas, particularly at the pulmonary area. Alert for any adventitious sound over the cardia, we were careful to analyze any suspected murmur that should be present and, from a study of this number of cases, we have learned to agree with McKenzie that murmurs in themselves have very little significance. We found many candidates having murmurs that were associated only with respiration. We also found others that were irregular but could be heard by more than one observer. These were neither brought out by exertion nor persisted after forced exercise, and were always unaccompanied by hypertrophy or dilatation. The murmurs were usually heard best at the fourth interspace to the right of the left midclavicular line and were looked upon as unreal from an organic basis. Of the true organic valvular lesions, only a few murmurs were found, which from the history appeared to result from former acute rheumatic fever; that is, the so-called rheumatic heart. None to our knowledge were due to a syphilitic heart, while the largest number were due to thyroid toxemia and were in a state of either fine balance or in unbalance.

When studying the hearts of these men, we paid particular attention to an observation published a few years ago, stating that murmurs at the mitral area, especially from true valvular lesions, could usually be heard in the left subclavian artery. This was not our experience for, while occasionally we could get such a murmur, not all the men with true organic disease and none with the so-called functional or respiratory murmurs showed such a transmission. The blood pressures, systolic and diastolic, were read in all the candidates and no man with a constant systolic pressure above 135 was accepted. In a few of the young men repeated readings were made and although by no other signs could disease of the cardiovascular system be recognized, they constantly had readings above the maximum. Some of these men were read at different times in the same day and on other days following and most of them returned to a systolic reading of less than 135. A few persisted beyond the maximum and were consequently rejected. The average systolic readings were about 123, although the range extended from as low as 110 up to 135, the candidate being otherwise normal.

The study of cardiac strain, while rather crude, seemed adequate to analyze the efficiency of the cardiac balance. The pulse was counted with the men quietly at rest. They were then compelled to run a distance of fifty yards, when their pulse was again counted, and after two or three minutes again counted. If the pulse had not then returned to normal, or at least to 84, it was again counted in about fifteen minutes and, if then not normal, the candidate was put aside for further examination. When any suspicion of enlarged or possible active thyroid was present, more careful counting of the pulse was made with the stethoscope over the cardia. After the aforesaid run of fifty yards, in those candidates showing any suspicion of thyroid enlargement or toxic manifestation, the pulse was counted at intervals of three, ten and thirty minutes after the strain put upon the heart by running. Several cases of very fine thyroid balance failed to respond by a drop of the pulse to at least 84 after ten minutes, and one case even after thirty minutes. These candidates were refused as it was considered unsafe to submit a heart of such fine balance, and evidently the result of toxic activity, to great altitudes and to sudden adjustment of the cardiovascular system.

There were three groups of thyroid cases which were seen: the hyperplastic thyroid in good balance; the thyroid in unbalance, that is, with true Basedow syndrome; and the most important for decision, the thyroid in what might be termed fine balance. The men with abnormal thyroids who could be placed in the first classification, and who under strain showed no embarrassment, were generally accepted; while those in the second class, presenting definite Basedow syndromes, were absolutely refused. Those who were considered as coming under class three, that is, in fine thyroid balance, presented an exceedingly difficult problem. The average age of these hundred men examined for aviation was 24.5 years. The average systolic pressure was 123.4; the diastolic 73.4 and the pulse pressure exactly 50. Twenty-four per cent. of the men had some form of a systolic murmur. Three per cent. only of these had definite signs of organic heart disease, and were consequently rejected. Four per cent. presented enough signs to be rejected because of a thyroid hyperactivity. Cardiac arhythmias were so infrequent as to be negligible.

NERVOUS SYSTEM

Although not entirely falling within the province of this paper, one cannot help but speak of a few men apparently normal in every respect who had no knee reflex. This comprised about ten men who showed no abnormality of the eye, had no impairment of station, that is, no Romberg sign, denied syphilis and the Wassermann test when applied gave negative findings in each case. All the other men showed plus knee reflexes from the excitement of the examinations. None of these were among the group analyzed and reported above.

COMMENTS

From this rather crude and hurried analysis of young men passing rapidly through the hands of examiners, we feel that certain impressions were made upon us and certain facts fixed in our mind which may be of interest. The opportunity for estimating normal blood pressure on a group of men in the third decade of life, presumably in good health and most of them having had athletic training, seemed an exceptional chance to confirm the standardization of blood pressure readings. This in general we did. The return of the pulse rate to normal in a few minutes, usually three in our cases, after mild physical exertion, was very striking and was looked upon as a fairly reliable gross test. The high percentage of murmurs over the precordia was surprising, at least to us. This goes to show that the recent view of most skilled cardiac students is undoubtedly correct; that is, murmurs heard over the precordia not only have not the significance which we formerly gave them, but when taken alone without concomitant signs and data are of no value. The question of murmurs heard over the mitral area transmitted to the left subclavian artery is interesting, and while noticed by us occasionally, both as examiners for the government and as clinicians in civil hospitals, we have not found this constant nor of great diagnostic value. The frequency with which we find cardiac arhythmias in private practice naturally made us alert in observing these men and we found that such a condition was exceedingly uncommon. This, I think, should excite little comment as most of the arrhythmia cases in our hospitals and private practice have been in the later decades of life. Unless the candidate was suffering from hyperthyroidism of a definite type, the same can be said of tachycardia, this condition being only present where thyroid toxemia existed. Finally, a word should be said about the perplexing condition spoken of before, namely, the thyroid in fine balance. This presents to our minds an aspect of health problem, physiological adjustment and efficiency in all walks of life but particularly in the aviator, which should receive further consideration.

IMPRESSIONS

One cannot be sure that the impression which we have can be adequately expressed; neither are we convinced that others will agree with us. However, there seems to be from a clinical aspect well studied in this group, a physiological balance of the thyroid in young adults, in many so poorly balanced that when the individual is forced to face the exigencies of war or any sudden and prolonged strain, which the average man can meet, he cannot measure up to it and should be rejected for military service as aviator or balloon man. There may be no signs which we have heretofore associated with hyperthyroidism; namely, no tremor, no tachycardia ordinarily observed, no unusual sweating, diarrhea or glycosuria; but these individuals carefully worked out with this idea in view, which we here emphasize, are unsuitable for sudden cardiovascular adjustment and if sent to the field will be returned to us as unfit for any branch of service, as well as being a great expense to the government. Our impressions of the splendid quality of the candidates, the frequence of cardiac murmurs of no organic basis, and the factor of fine thyroid balance, are definite at present and may be lasting.

It is fair to state that one of my colleagues, Dr. A. A. MacLachlan of the Mercy Hospital, as well as others insist that a cardiac murmur means something wrong and calls for a further study of history, roentgen ray, etc. This we accept despite our attitude expressed, and to which we adhere; functional murmur is possibly a bad term. It might also be of interest to state that out of 200 so-called nervous hearts disqualified for active service, Lewis has returned 40, or 5 per cent.

201 South Craig Street.

ROENTGEN-RAY EXAMINATION OF THE HEART AND GREAT VESSELS *

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Information pertaining to the heart obtainable by roentgen-ray examination may be divided roughly into two classes: (1) Facts regarding the size, contour and location of the heart; (2) facts regarding the pulsations of the heart and the influence of respiratory movements upon the heart.

The latter facts are ascertainable only by the use of the fluoroscope while the facts cited in the first division may be determined either by the use of radiograms or by the fluoroscope. In considering the size of the heart there are only three conditions possible, too small, normal or too large. I have seen but two cases where one could say unquestionably that the heart was too small to perform properly its functions. Both these cases were adults, one male and the other female. Both were ordinary sized individuals, one about 40 years of age, and the other younger. The heart in each instance was about the size of a base ball or possibly a trifle larger. These individuals were both very much handicapped, any exertion whatever being out of the question, even fast walking being impossible. The man died suddenly about two years after I saw him. The woman at last accounts was living and in her usual state of health. I am sorry I am unable to show illustrations of these two cases.

The normal heart may vary in size between rather wide limits. For purposes of description three divisions are very convenient: (1) The small vertical heart of the asthenic individual; (2) the medium sized and obliquely placed heart of the average sized individual; (3) the large, transversely placed heart of the large individual or the athlete. The athletic heart is often hypertrophied and possibly should be classed as abnormal, especially in later life when the athletic activities have ceased.

The small "drop" heart is well known; it is centrally placed and its long axis is practically parallel to the long axis of the body. It occurs in thin individuals with long chests, and is supposed to indicate a predisposition toward tuberculosis of the lungs. Its vertical position is undoubtedly due to an unusually long chest just as the transverse heart in the fat person is due to a very short chest. Deep expiration by the ascent of the diaphragm has a tendency to convert the vertical heart into one of the oblique variety, and deep inspiration by the descent of the diaphragm has a tendency to convert the transverse heart into one of the oblique variety. These facts would suggest the thought that the individual with the vertical heart has possibly a habit of insufficient expiration and the one with the transverse heart a habit of insufficient inspiration.

The medium sized heart varies quite considerably in size, shape and obliquity, having individual characteristics about as commonly as the nose.

The right ventricle is not seen in a radiogram of the heart, being covered by the diaphragm. In the oblique heart now under discussion, the right auricle projects to the right of the spine about one inch. It describes a decided curve and merges into the shadows of the aorta and vena cava above and the diaphragm below. The left ventricle forms the greater part of the heart shadow seen to the left of the spine. A little bulge above the left ventricle represents the left auricle and above this another bulge is made by the pulmonary artery. Above the pulmonary artery is seen the descending aorta and the aortic arch.

In the large transverse heart the long axis of the heart is nearly at the right angles to the long axis of the body. This position is caused by a short chest and a high diaphragm which lifts the apex of the heart upward and allows the heart to lie with practically the entire right side in contact with the diaphragm. The hypertrophied heart is also more or less transverse, due to an increase in size of the left ventricle. The transverse heart is large for two reasons: (1) It occurs in large, stout individuals who naturally have a large heart, or else (2) it is a hypertrophied heart.

Hearts that are too large are either hypertrophied, dilated or the heart shadow may appear large on account of pericardial effusion. Hypertrophied hearts we have already considered under the title of large transverse hearts.

The dilated heart may be enlarged in any or all of its chambers. The generally dilated heart occurs from valvular lesions with loss of com-

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

pensation. Practically all the dilated hearts I have seen in young children have been of this type. A dilatation of the right side of the heart only, seen by roentgen ray means a dilatation of the right auricle and occurs in tricuspid lesions, either regurgitant or stenotic. A dilatation of the left side of the heart occurs in mitral lesions or in aortic lesions. Usually in mitral lesions with loss of compensation the entire heart is dilated. The first chamber to dilate in mitral lesions, however, is the left auricle. The left ventricle will also be large, first from hypertrophy and later, after loss of compensation from dilatation.

In aortic lesions the left side of the heart only is affected.

Pericardial effusion causes an increase in the size of the heart shadow, with an obliteration of the curves identifying the various chambers of the heart. The heart shadow becomes roughly triangular with the apex above and the base below. The outlines of the heart shadow approximate straight lines instead of curves. The heart shadow changes shape somewhat on changing the position of the patient.

Alterations in the contour of the heart occur from increased size of any or all of the chambers of the heart and have just been considered. The heart may be displaced from various causes. Pleurisy with effusion, old pericarditis with adhesions, old pleurisy with adhesions, fibroid phthisis, tumors in the mediastinum, subphrenic abscess are a few of the etiologic factors.

By means of the fluoroscope the action of the heart may be watched and occasionally information is obtained that might otherwise be overlooked. The rapidity and vigor of the pulsations are of course noted.

Arrhythmia is occasionally seen. I have fluoroscoped one case of heart block and the demonstration was very beautiful. The slow massive contractions of the left ventricle occurred about twenty times to the minute, while the contractions of the right auricle were so rapid as to almost challenge the power of the eyes to follow them. Adhesions of the pericardium to the diaphragm in the region of the apex are occasionally seen by fluoroscopic examination; on deep inspiration the point of adhesion can be plainly seen. While there is probably no information regarding heart pulsations obtainable by roentgen-ray examination that is not also demonstrable by clinical methods, yet the visualization is often very reassuring. When we come to consider the size and contour of the heart, however, the roentgen ray has distinctly the advantage.

We have all seen time and again examples of the impossibility of accurately percussing the outlines of the heart, even by the best clinicians. Particularly is this so in demonstrating enlargements of only one chamber of the heart; also in instances where there are enlarged lymphatic glands lying close to the heart, as often happens on the right side of the mediastinum.

Above and merging into the shadow of the heart is the shadow cast by the great vessels. These are the vena cava, the ascending aorta, arch and descending aorta. The shadow cast by the vena cava lies farthest to the right. The shadow of the ascending aorta is to the left of it and cannot be separated from it. The arch caps the shadows of the ascending and descending aorta. It describes quite a sharp curve and always bulges out to the left of the shadow of the spine, forming quite a prominence sometimes mistaken by the uninitiated for aneurysm. The left border of the ascending aorta is seldom seen, but both borders of the descending aorta can usually be made out. The ascending aorta is quite frequently dilated for its entire length; that is, broadened. This broadening is entirely different in appearance from the sac-like protrusion of an aneurysm. There is no bulging, simply a widening of the caliber of the vessel. I have no statistics on the subject but believe this condition is suggestive of syphilis, probably to the same extent as is aneurysm.

Aneurysm of the ascending aorta without involvement of the arch is occasionally seen as a sacculated protrusion of the right border. Large aneurysms of the arch are always continued into both the ascending and descending aorta. Small aneurysms may involve the arch only. Aneurysm involving the descending aorta only is occasionally seen. Also, but more rarely, one sees aneurysm of the innominate artery. In these cases the recurrent laryngeal nerve is usually affected. The differential diagnosis between aneurysm of the aorta and solid tumors in the mediastinum is not easy. Both fluoroscope and radiograms should always be used. The point of differentiation upon which most stress has been laid is that in aneurysm there is an expansile pulsation to the tumor. In practice it is extremely difficult to tell the expansion of an aneurysm from the pulsation transmitted to a solid tumor from the pulsation of the heart. If a diagnosis is made upon this point alone many errors will result. The borders of an aneurysm are always smooth and convex. Outside of malignancy of the mediastinum, which has much the same appearance, other solid tumors are apt to be more or less irregular and knobby. Malignancy sufficiently advanced to have a mass in the mediastinum large enough to be mistaken for aneurysm is usually accompanied by metastases in the lungs easily recognizable. By rotating the patient sideways before the fluoroscope and thus bringing into view the anterior and posterior borders of the aorta, aneurysm can often be differentiated from other tumors, as the symmetrical dilatation of the aorta can thus be seen. Enlarged mediastinal glands from tuberculosis, syphilis, leukemia and Hodgkin's disease cannot be differentiated from one another by the appearance of the tumor masses.

The roentgen-ray changes in the lungs in these conditions are somewhat different and may be sufficiently characteristic to make the diagnosis between them, or the differential diagnosis may be made by clinical methods. The main point in differentiation will be between enlarged glands and aneurysm. In aneurysm as before stated the outlines are smooth and convex, while in enlarged glands they are apt to be somewhat irregular. Also on rotating the patient in aneurysm the tumor is seen to be continuous with the aorta while the enlarged glands are more or less lost behind the shadow of the spine. If the masses of glands are very large and smooth in contour it may be impossible to differentiate in this manner. Then if the character of the pulsations are not diagnostic and there are no changes in the lungs to indicate a constitutional disease, the diagnosis cannot be made by roengen-ray examination alone.

The differential diagnosis of thymus or substernal thyroid is easier, as the tumor lies above the arch in these conditions. They might be confused for an aneurysm of the innominate artery, but the appearance and location of the shadows are decidedly different. The thymus or intrathoracic thyroid lies in the mid line, while the innominate aneurysm lies to the right side of the sternum, also the borders of the thymus are more apt to be concave or straight than bulging as is seen in aneurysm. Having carried the diagnosis so far it should easily be confirmed clinically in such widely differing conditions.

Jenkins Arcade Building.

SYMPOSIUMS

HEALTH INSURANCE *

JOHN B. McALISTER, M.D.
Member of the Commission Appointed by the Last Legislature to Investigate Health Insurance and Report to the 1919 Legislature
HARRISBURG

Without lessening one jot of our efforts and determination to help win the war, we must not neglect other matters of great importance to the medical profession. Our profession is certainly on the eve of a new era. The problems which confront it are increasing daily in complexity. Each succeeding session of our state legislative body shows evidence of further investigation, regulation and socialization in medicine.

The most thoroughgoing measure of social reform ever proposed for our statute books is the Health Insurance Act. One might even go further. It is probably the most daring and complicated scheme of national betterment ever proposed. The average man, befogged to begin with, by the amazing perplexities of the whole project, has found it frankly impossible to keep up with its manifold transformations, while some people have a feeling that something big and fine will result from the operations of such a bill.

In the 1917 session of the Legislature there was introduced a bill providing for state-wide compulsory health insurance. The same people and agencies back of the adoption of Workman's Compensation Law were interested in this measure. The success of the compensation law in its main features, encouraged the same interests to extend the scope of social insurance to afford protection not only against injury but also against sickness. The discussion during this session developed the need for a study of the health conditions of this state and hence the creation of the Health Insurance Commission. The commission has been most fortunate in securing the services and hearty interest of an unusually efficient and intelligent investigating staff for the conduct of this investigation. I shall quote largely from their report. When you recall Pennsylvania's great importance as an industrial state you will further appreciate the importance of this investigation. Probably over three million persons are employed in its industries, and on account of its great impor-

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* Read at the Conference of Secretaries at the Philadelphia Session of the Medical Society of the State of Pennsylvania, Sept. 24, 1918.

tance in this war crisis, in producing the necessities of the Army, we realize the need for industrial efficiency and health. The United States Public Health Service estimates that wage-earners in the United States lose on an average nine days' work each year because of illness, and it is estimated that one-half of this loss is due to illness which could be prevented.

Quoting from a report of our investigating staff: "The facts which we have collected lead us to believe that large numbers of Pennsylvania employees are each year rendered incapable of working with their highest efficiency because of a general lack of proper measures for the preservation of public health and because of neglect of many minor ailments which, untreated, often develop into serious disabilities. We know the stimulus to preventive effort and prompt treatment in cases of industrial accidents which has come because of the enactment of workman's compensation laws. In January, 1917, Chairman Mackey stated 'no statistician can ever calculate the tremendous advantages to the industries of Pennsylvania or to society generally, because of the fact that this law has furnished to nearly two hundred thousand men free medication so successfully administered that they have been cured of all resulting complications or infections and their injuries have not become compensable.' If the commission can suggest methods which will reduce the time lost by Pennsylvania workers through sickness, and which will make more nearly possible the maintenance of proper health standards it will not only give valuable help in the present emergency, but will have made a permanent contribution to the character of our citizenship." In this paper there is not time to go into the statistics gathered, but only report the conclusions reached in the report:

"1. Illness among Pennsylvania employees and their families is an unsolved problem, demanding immediate attention. Among all the states in the Union, Pennsylvania stood highest in rejections for physical causes in the draft of April, 1917; 46.67 per cent. were rejected, while the average for the whole United States was only 29.11 per cent. The infant death rate is highly excessive in many parts of Pennsylvania. Fully one-half the suffering to individuals, inefficiency in industry and waste in human resources, due to illness is wholly unnecessary and preventable.

"2. The magnitude of this illness problem may be gauged by the fact that probably more than 385,000 persons in the state are constantly suffering from illness; approximately 140,000 from severe and 245,000 from slighter illnesses. Every employee loses on an average at least six days' work each year because of sickness. That multiplied, makes a financial loss of more than $33,000,000.

"3. Illness among employees is causing a heavy drain on the charitable resources of the state. Expenditures by the state for subsidies to hospitals, for the state antituberculosis work and for medical supplies in almshouses and out-door relief to sick persons amount to more than $6,000,000 a year.

"4. Illness is no less a burden on private funds. All organized relief societies report illness to be the most frequent disability in the families coming to them for aid.

"5. The loss from illness to the employee is not merely a loss of time, of money and of physical strength, but means in far too many instances a gradual lowering of the standard of living, a period of privation and suffering for himself and his family, and eventually a loss of self respect when he is forced to resort to the final measure and apply for aid to a relief agency.

"6. The loss from illness to the employer is a fact too often disregarded. At this time of national crisis when every patriotic employer is striving to secure maximum efficiency from his workers and his plant, illness tends to thwart his efforts by causing serious losses in time and strength among his employees and by increasing his "labor turnover."

"7. The loss from illness to the community is not only in money and in reduced efficiency, but involves the citizenship of the future. Growing children, forced to endure a period of undernourishment because of straightened family resources when the breadwinner is ill; mothers who receive no prenatal care, working until the last minute before confinement, and as soon thereafter as they can stand on their feet; babies who are not given a fair start in life, all these mean not only a present problem, but a serious and unjust handicap for the generations to come.

"8. Present facilities for medical care among wage earners are not satisfactory, whether considered from the standpoint of extent, cost or proportion of persons receiving care in time of sickness.

"Hospital accommodation in the state averages a little more than one-half the standard minimum of five per 1,000 of population. Even if good medical care were available and adequate, most employees could not afford to pay for it. Fees are not large, but it is very doubtful if wages have kept pace with the soaring cost. Most employees are unable to save for emergencies. The result is many of them fail to receive medical care of any sort, and many do not receive care until the illness has past a stage that could be quickly remedied. Approximately a fourth of those actually disabled by illness never receive medical care, and half of those ill, but still trying to work, are without attention.

"9. Physicians and hospitals help by giving medical charity in many instances, but no system of dispensing charity can be regarded as an ultimate solution of the illness problem in a country claiming democratic ideals.

"10. Insurance protection against sickness is found among a considerable minority of employees, but seemingly least often among those who need it most. Illness is a thing of chance, and most employees run the risk of escaping. Since death is a certainty a large number of wage earners' families carry industrial life insurance to guard against the "Potter's Field."

"11. Aside from the recognized occupational diseases, a relation exists between a man's work and his health. Industry is beginning to recognize this, and preventive measures have been stimulated by the enactment of the Workmen's Compensation Laws.

"12. The responsibility for illness rests on three groups; the community, industry and the individual. At present these three groups are meeting the losses from illness in wholly unequal shares; the burden on the individual is often disastrous and out of proportion to his individual responsibility. Some means of a just distribution of this burden should be found."

These are conditions which the commission believes it has developed in its investigation. If we are accurate in our investigations and correct in our conclusions, then undoubtedly there are conditions to be bettered. What is to be our attitude? We as a profession have a vital part in this matter. No progress can be made without our sympathy and help.

As a member of the Investigating Commission, I am trying to maintain a judicial mind until our research is completed; and in the preparation of this paper I intended to present the subject of health insurance from both sides, but it is too large a task for a fifteen-minute paper. The Committee on Health Insurance of the Illinois State Medical Society enumerates twenty-eight objections as a few of the most potent objections by our profession. The commissions of California and New Jersey have presented equally strong arguments favoring it.

The first argument that will be made for compulsory health insurance is that such a state of things as has so far been revealed by this investigation is not creditable to our great state, and that as the individual is not able to provide against the burdens of sickness and unemployment, the state must step in to protect its own interest; that European countries have long since reached this conclusion, so we must legislate to remedy this evil. These are facts and conditions that may be new to many of us, and should be remedied as far as human power can do so to make our commonwealth most efficient. Is our profession doing its full part in this problem, or how better can it help? The old times, when the physician must sit in his office and wait for the sick to call on him are passing, but the time is coming when we must anticipate the sick workman. Even if health insurance laws are not enacted, the many agencies now existing might be coordinated and made more effective to meet the needs of the situation.

Opponents of health insurance claim: (1) That health insurance is propaganda for paternalism and un-American. A vicious delusion from every standpoint except the political. To the politician, it is a prospective gold mine. (2) That none of the European countries, where health insurance has become a law can prove it has been satisfactory to all parties concerned, and this under reasonably stable forms of government. What would it be under our form of government with its quadrennial upheaval when all arrangements already made would be changed by the new personnel of a new administration? (3) That health insurance has been a failure in England, where it has not met the medical needs of the public; nor provided sufficient hospital facilities; nor sufficiently remunerated the physicians. (4) That health insurance is not demanded by the public at large, by the medical profession, nor by the laboring man himself. It does not represent the majority of American citizens earning less than $1,200 per year. The American laboring man is usually independent and prefers to pay for what he gets. The American Medical Association has not officially committed itself on this subject one way or another. Local medical associations have passed resolutions of disapproval. There is no evidence that the required thorough and impartial investigation was made to ascertain the views of employers and employees. (5) That the effects of health insurance on medical practice are deplorable. The *British Medical Journal* weekly publishes accounts of seemingly endless quarrels, dissentions and disputes concerning fees, allotments, prescriptions, settlements, etc. The best interests of the profession are being sacrificed to purely economic considerations. (6) That health insurance leads to deterioration in the treatment of the sick. The work will be done hastily and superficially, and denies the assertion of increased practice for the average physician; and that it burdens the doctor with clerical duties. (7) That it leads to fraudulent practice. (8) That certain of the insured will not be as much interested in recovering as quickly as possible, and offers pecuniary inducements for malingering.

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(a) That compulsory health insurance presents advantages not offered by any other method; it makes certain the insurance of all wage earners who may reasonably be expected to require protection. (b) That it supplies all the needs of a sick wage earner; necessary medical, nursing and hospital care; better medical care, and reduces the individual expenditure for doctor bills. (c) That backward communities will make arrangements for increased medical care and increased hospital facilities. (d) That in Great Britain the individual animosity to the insurance act among physicians has practically subsided. Some late reports of the Insurance Acts Committee of the British Medical Association assert a degree of unanimity as somewhat remarkable. "On a subject which five years ago was the most highly controversial that had ever been before the profession, and which still in some place, and everywhere in some of its aspects, excites argument it is found (1) that many matters which at the beginning of the controversy gave rise to most apprehension have assumed a position of quite minor importance; (2) that the general system by which the state provides medical advice and treatment under the insurance scheme is in the main approved, and that criticisms have a tendency to concentrate on comparatively few points which, though of great importance and indeed vital to smooth working, are, after all, matters of detail which ought to be capable of adjustment; (3) that there is a large body of opinion in favor of extension of the health insurance system both to kinds of treatment not at present provided for and to classes of persons at present excluded therefrom." (e) It will make possible the relief of financial distress during the illness of the bread-winner; and makes possible a maternity benefit which will supply a pressing need. (f) That an actual increase in longevity has been observed in countries which have adopted health insurance and it will stimulate a campaign for prevention of illness, preventive medicine, and provide more adequate machinery for the prevention of disease.

We must study the problem in all of its aspects, not from our interests alone. Like all vital questions there are many sound convincing arguments on both sides of health insurance. If health insurance is a good thing, and if the medical provisions of the draft are unsatisfactory, may this not be the result of our profession being slow in offering constructive suggestions? Can such suggestions be offered unless we look on both sides of the question? Familiarize ourselves with the claims for and against such insurance? Not until then can our criticisms and suggestions be fundamentally sound.

Still maintaining an open mind on the basic principle and believing that some form of health insurance is coming, as a citizen and taxpayer, at this time, I should oppose such legislation, while we are at war and the people heavily burdened. This legislation would be largely experimental and its cost undoubtedly very great, probably entail the expenditure of $50,000,000 to $100,000,000. A large proportion of this money would be used for salaries and administrative charges and would not reach the immediate purpose of the act. This amount of money and energy should not be diverted from our purpose to win the war. The argument will be made that because of the war, this would be the opportune time to accomplish this legislation, when the people are expecting constructive legislation and are in a receptive state of mind.

As a physician, I would object to this experiment upon the medical profession, until the operations of the Workmen's Compensation Law are made just and fair to the physician. If it was seen fit to enact a law giving the doctors of Pennsylvania the lowest compensation of any state in the Union under the compensation law, then what encouragement have we for better or even as favorable treatment under a larger scheme. To avoid a burden on employer and employee and keep down expenses, the medical profession is asked to give its services without fair recompense. We need not be ashamed to protect our interest in an economic way. We may be a necessary evil in the world, but our necessity has been recognized when the medical profession is essential in the organizing of an army and just as essential in following our boys until mustered out of service.

Then, too, it is not fair, at this time when so many of our profession are serving our country and have no opportunity to voice their views, to force upon them legislation which may be harmful to their interests. Nor is the profession prepared to say what conditions of service and of remuneration would enable it to give satisfactory service. There should be no difference between the patient who pays private fees for attendance and the patient for whom the state is responsible. Health insurance has waited this long, and there is no urgent reason why it should be suddenly forced upon us while the profession is at such disadvantage. No health law can succeed without the cooperation of the medical profession.

Medical organization must be strong and united to enforce our just claims in this scheme. You, gentlemen of the secreteriate, have it in your power to accomplish much. There has been a great evolution in recent years in the office of secretary. Formerly it meant the simple performance of sending out notices, and doing other odd jobs for the organization, a man who is docile, obedient, hard-working and conscientious, but utterly lacking in initiation or originality. This conception of the duties of a secretary has changed. Secretaries are chosen for their brains, their personality, their ability and their untiring energy. You have been weighed in the balance and not found wanting, otherwise you would not be here tonight. Upon you gentlemen largely rests the responsibility to arouse the members of your society and the profession of your community, to the urgency of this proposed law which gravely concerns you and me.

234 North Third Street.

HEALTH INSURANCE *

WALTER F. DONALDSON, M.D.
Retiring President of the Medical Society of the State of Pennsylvania
PITTSBURGH

For the privilege of addressing this, your thirteenth annual conference, I am deeply grateful. I take pride also in identifying myself as the son of the late Dr. John B. Donaldson of Washington County, who was a pioneer worker in your organization.

As a medical man I touch upon social or compulsory health insurance only to condemn it and to attempt to enlist you all in the fight against it. As medical men we must in this fight be practical men, and as tremendously busy men we should be thankful for the defeat of this type of legislation in Illinois. The Medical Society of the State of Illinois led the fight that brought about the defeat of health insurance in their state, and almost without exception their plans can be adopted in our state.

We should be opposed to further exploitation of our services by meddling reformers and theorists for many reasons. The demand for such control comes not from labor, not from capital, and surely not from the physician. From whom then you may ask. From the American Association of Labor Legislation to be sure. They may have an occasional labor organization adopt a carefully planned resolution in its favor, but as long as the great American Federation of Labor, led by Samuel Gompers, is against it, we may truthfully say that labor is not for it. They may occasionally find a selfish employer to be for it, because it permits a physical classification of employees from which he may choose only the highest type. Or, again, they may find an occasional magazine or syndicated writer of medical articles, who is a physician, who will express his capitalized opinion for compulsory health insurance. But they have never yet found a real, live, practicing medical man to speak a word in its behalf. Contract physicians or specialists among us may selfishly or carelessly drop a word in its support, but even they on deeper second thought may see the light.

In Illinois, where six thousand physicians were opportuned to speak for or against it, none were for it. Those who had worked under it in European countries were especially bitter against it. None would say that it would help either the medical profession or the working people for whom it is intended. The term "working people" is used advisedly here, for behold you, gentlemen, it includes none but those physically able to work, and they must earn a maximum sum per month of $100—a sum not to be made light of before these days when one coal miner nets more money in a month than the poorly paid contract physician, who gives professional attentions to half a thousand of them.

You can not insure alone the healthy working individuals of a commonwealth and expect to correct existing evils. You can not prove that sickness is the cause of poverty. Physicians know that poverty causes sickness. By poverty is meant poor wages, poor housing, poor clothing, want of rest, extravagant expenditure of money for non-essentials, laziness, too many

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* Read at the Conference of Secretaries at the Philadelphia Session of the Medical Society of the State of Pennsylvania, Sept. 24, 1918.

holidays and alcoholism. When booze is stamped out in Pennsylvania there will be no occasion for health insurance, and medical and surgical services will be paid for *per se*. It can be proven (and it has been proven) that in certain large cities and smaller industrial communities more money is spent for alcoholic drinks than for groceries and meats.

There are many obvious reasons other than financial reasons for our opposing health insurance. It will glorify lodge practice, spreading the curse of carelessly administered medical services for small remuneration. It may result in secret conniving between panel physicians and panel specialists. The general practitioner may be at the mercy of the medical officer who may order the patient to the hospital without the consent of the attending physician. The quality of the medical service will degenerate. Two-minute professional visits will take the place of twenty-minute visits.

Such legislation will destroy the incentive for medical research. It will be productive of malingering and it will disturb the feeling of confidence and personal relation between physician and patient which is so often essential and which marks the line between a profession and a cold-blooded business in the practice of medicine.

It should be possible of course for a wage earner to have health insurance, but let him pay for it, even as you and I, and not accept it on a 60 per cent. charity basis.

The secretaries of our county and state societies are admittedly the architects and builders of those organizations. Use your office and your power therefore in this as in other good causes. Your members will follow your leadership; make the best use possible of your publications—put the words in the mouths of your men that they may at once influence their legislative representatives. Do not permit assemblymen to be in a position to say, after their support is cast, "Why, I never knew that medical men and women were opposed to compulsory health insurance." Rather have them say, "Every physician in my district is opposed, and, furthermore, the health of the people at home always has been well cared for under existing conditions."

Do not permit our hero members in our country's service to come back home and find that we have permitted paternalism, against which they fight, to gain a foothold in our state where the individual has always had, and always should have, his opportunity.

8103 Jenkins Arcade Building.

HEALTH INSURANCE*

FREDERICK L. VAN SICKLE, M.D.
President of the Medical Society of the State of Pennsylvania
OLYPHANT

It would seem to me, after hearing the papers of Drs. McAlister and Donaldson, that any particular further discussion on my part would be superfluous. It appears to me that while it is highly desirable that all possible light be shed on the subject that has been presented to the profession, one side of which we now have to deal with in workmen's compensation, and the other side of which is looming up on the horizon, we cannot say too much, if we can shed any light for the medical profession of the state, to govern them in the future. But let us look back for a short time:

When your father and my father began the practice of medicine in the state of Pennsylvania they were not even burdened with a license. Their knowledge, which they had gained at the medical college in a short time, was used to the best advantage for the benefit of the people who employed them. It was not used on a commercial basis. Eventually, however, those great and far-seeing men called lawyers thought it wise to regulate our fathers, and put a license in their hands, in order to deal with the sickness problems of the community in which they lived. Later, they licensed hucksters; and, it is possible, hod-carriers also. I do not know. But, as time has gone on, the spirit of freedom in this great Keystone State seems to be growing less and less in evidence, and if we are to obliterate freedom in the medical profession, let us then accept health insurance as a problem to deal with.

This morning I endeavored to point out the fact that the best minds in the medical profession of this state have centered on the important problem of health insurance; and tonight, I simply want to reiterate the statement that health insurance is not a dead issue among our lawmakers. Some of the bodies who control the commonwealth in official capacities are anxious to see to it that this state shall build up a big institution, and that one of the wings of that institution shall be health insurance. Dr. McAlister has wisely said that no constructive legislation that deals with the health of the public can be successful without the aid of the doctor; and were every one of the six to seven thousand physicians in this state, before the war began, to say, "We will not accept health insurance," there could no bill providing for this go before the legislature.

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* Read at the Conference of Secretaries at the Philadelphia Session of the Medical Society of the State of Pennsylvania, Sept. 24, 1918.

It is, then, a question of unity of action and purpose on the part of our great profession in the state of Pennsylvania that can prevent health insurance, if it is a bad measure; but there may be a sufficient number of physicians in the state who are not well informed or who seem to see some opportunities that the rest of us may not see in this measure, and who will foster in the lawmakers of this state the desire to bring about such legislation. I can well remember reading in the medical journals, some years ago, of the controversy that took place in England regarding the workability of those measures which were brought to the attention of the medical profession of England; and you know that the endeavor to correct the evils that were apparently thrust on it almost bankrupted the British medical profession. We do not propose to be bankrupted. We are going to be better business men and know how to attack problems of this kind. I think that the state, through such a representative as Dr. McAlister and through statistics that can be obtained, will be able to present to the medical profession, between now and the time the legislature meets, sufficient evidence to show that this is not a propitious time to launch a measure of this magnitude in the state of Pennsylvania. I said this morning, and I want to repeat tonight, that this is not a time when anything should be allowed to divert the mind of the people of this great Commonwealth from the thing that we have to do. We must win this war. If we divert interest from that to concentrate it on health insurance, when so many of the doctors are away from home and otherwise busy, it is just possible that during this coming winter we may see health insurance loom up quite prominently in Harrisburg. It is for that reason, it seems to me, that the paper which Dr. McAlister has presented to us was written; and this is the purpose that the Secretaries' Conference has in consideration: that we must not look lightly on the possibility of health insurance coming to us in this state.

The Workmen's Compensation Act has been with us for something over two years, having been passed in 1916. There are many men who believe that it is a good law; but there are many others who do not believe that it is a good law. Any law that attacks the freedom of the individual to such an extent that it has a depressing influence on a large part of the community is not a good law. To a certain extent, the Workmen's Compensation Law is not a good law, yet it represents a step which apparently was necessary according to the ideas of the lawmakers, who considered it essential to bring about certain reforms in practice in the states of this Union. I do not feel like entering into a discussion of the Workmen's Compensation Act, because that is not what we are talking about, but it seems to me to be the stepping stone, the entering wedge, by which health insurance, old-age pensions, maternity insurance, and the host of other so-called insurances for the protection of the working people, will be introduced.

Now, what about the working people? The working people of today, especially those down at Hog Island and in the coal fields, are a great deal better off than the physicians of the state; and it is wise to remember that they are looking out for their welfare, and that it is high time that the profession became sufficiently organized (if we are not organized sufficiently, let us become so) that any problem of constructive legislation affecting the medical profession shall have a solid phalanx back of it; and you secretaries are the instruments through which this can be accomplished.

COUNTY SOCIETY DUES AND THE PER CAPITA ASSESSMENT FOR 1919 *

WILLIAM H. MAYER, M.D.
Secretary of Allegheny County Medical Society
PITTSBURGH

The subject assigned to me is an old one and were it not for these unusual times I should hesitate to suggest anything. The present situation, the result of the generous enlistment of so many of our members, has given rise to a number of problems. I should dismiss the question of an increase in dues and of the state *per capita* assessment by merely questioning how much this increase should be. There are, however, several reasons for a careful study of the why and wherefore. In each and every community there exist a few possibly well-intentioned members, who seem ready to do away with medical society affairs for the period of the war. To these men an increase in dues does not appeal. Their point of view is well taken when one considers the matter in a purely selfish way. They argue that the increased demand on the remaining physicians, since from every community so large a percentage is already in the service, renders it impracticable or even impossible to give time to scientific society medicine. They further see no necessity for a change in legal conditions at this time. They argue that it is unfair to make changes when so many of the men in the service cannot be present to speak their minds. While we admit that there is a trace of generosity and an abundance of conservatism in such an attitude, there are other factors which greatly outweigh the importance of such points of argument. We well know that everywhere the Army has taken from us many keen minds, has hampered scientific progress in a measure, but this is not as complete as a cursory survey might lead one to believe. I am sure that my fellow secretaries will agree with me that it would be unjust to ourselves and to our professional existence to retard progress by simply standing still and failing to deal with the everchanging scientific aspect at present, due in great part to the psychic and economic effect of the conflict across the sea.

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* Read at the Conference of Secretaries at the Philadelphia Session of the Medical Society of the State of Pennsylvania, Sept. 24, 1918.

Never before in our history has the lesson been driven home to the people at large of the need, for the very life of our nation, of real ethical physicians. From our county at present there are 239 men in the service and 300 more awaiting commissions. Our hospitals have suffered to a great extent. Our teaching institutions are without some of their most valuable men. It is truly a difficult situation. Our enemy, as a part of his keen intrigue, recognized years ago that well-trained medical men were essential to a well-organized army. He accordingly subsidized the medical profession to such an extent that he has never known the problems which today face the department of our Surgeon-General. By way of contrast, let us look to our state of Pennsylvania; real, legitimate, honorable, upright physicians have responded to the call to the service in a proportion which makes us proud; some of these may pay the supreme sacrifice. There remain at home many good men, many able men, but even now they are crowded, unable to cope with the increased number of cases. There remain at home also, the pseudo physician, the quack, and a myriad of cults of either misguided individuals or malignant impostors, to whom, I regret to say, has fallen no mean proportion of the work of our heroes. In the majority of instances this will not endure; pseudo science never does. But far too often these parasites have not only benefited financially but have gotten a foothold which it will be difficult to dislodge. Our army does not want anything but the best, and so when the demand of an army of five or eight million men on the physicians of our country is satisfied, there will remain a dangerous majority, I fear, of such parasites.

It is, therefore, our duty, not only to ourselves but to those of our members in the service, now when the opportunity is ripe, to show our state legislature, through our state society, and for us as secretaries to show the laymen locally, what legitimate medicine has meant and will mean, not only to the community but to the nation at large. Why should our legislature suffer this commonwealth to endure these various types when the armies of the world, after bitter experiences, will not even tolerate anything but the best. Our duty is, therefore, plain. We must, first, support every effort of the Medical Society of the State of Pennsylvania to eradicate this evil through its work in the legislature; second, we must locally, as secretaries of societies, promote propaganda to educate communities as to the difference in physicians, show them *who* have been asked to form the medical part of the greatest army and the best army in the world, and, thirdly, to force the retirement from politics of every legislator, who, by voting for quackery, shows himself inimical to the welfare of his constituents.

We must, indeed, fight the battles at home for those of our profession who have nobly enlisted to fight for us all. We are virtually the rear-guard of the physician in the trench, for it is we who must assure his economic status when he returns, and, gentlemen, let us devote our entire effort to improve conditions, so that when he returns, he shall find his place as it should have been long ago. I know of no more noble cause than this. I know of no more opportune time and I consider it a sacred duty.

6077 Jenkins Arcade Building.

COUNTY SOCIETY DUES AND THE PER CAPITA ASSESSMENT FOR 1919 *

JESSE L. LENKER, M.D.
Lieutenant M. R. C., U. S. Army; Secretary of Dauphin County Medical Society.
HARRISBURG

The old adage that "a chain is just as strong as its weakest link" is not applicable to organizations. They are not as strong as their weakest member, but instead just as strong as its weakest officer; therefore, it is important that we elect officers of the right caliber, the efficiency of a military organization depends entirely on the officers in charge. They must not only be able to give commands and see that they are carried out but they must be able to instill and inspire confidence, keep up the morale of the men, and at no time let them know what defeat is, or that such a condition could arise.

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* Read at the Conference of Secretaries at the Philadelphia Session of the Medical Society of the State of Pennsylvania, Sept. 24, 1918.

This is true, too, of county medical societies. A wideawake, busy society has wideawake officers; officers who are on the job inspiring confidences, keeping up the morale of the men and making it worth the while of the members to spend a few hours a month at meetings hearing intelligent and instructive papers, and in a little while finding the timid ones entering into the discussion.

A community that has a medical organization that does things has a competent and busy medical personnel. It is the interchanging and intermingling of ideas and rubbing elbows with one another that puts the finishing touches to a professional man; it makes no difference what his calling. At no time in the history of organized medicine has it been so essential that we have busy and active officers and members, and that we stand firmly for higher ideals and principles. The backbone of our Army and our communities is the medical profession. With the countries of Europe torn and bleeding, our homes depleted here, and our medical ranks fast fading, it is important that we get into our fold all those men who do not know what a medical society means, that we may broaden each one out and make a real active and efficient servant that he may both keep intact his absent brother's families, and last, but not least, the state medical society. This will be a hard year and each succeeding year still harder, since we agreed to forfeit the dues of the members who go into service. This means less funds to carry on our work, and unless we consider some means of making up this deficiency we cannot continue intact and be successful.

I think what is true of Dauphin County is true of the other counties in the state. We have in our county, according to our last census, 204 medical men and women; this includes those in pharmaceutical work and in health and social service work. Of this number we have in our society 161 members. Of this number we have in service and on the inactive list those who offered their services and were rejected for physical reasons 41, or about one-fourth. If need be we can give more, and are only too willing to give more. We agreed to keep intact and turn over to our members, when they return, their practice, to give one-third of all collections, and if possible to collect all money owed them. I am proud to say our members, with but few exceptions, are loyal, and these few are men who do not know the influence of a county medical society.

Certain of the county societies have clearing houses to handle the collections and funds of the absent members, and while this may have its good features I am of the opinion that it entails unnecessary expense as each member can very readily, when he is inquiring the name of the new patient whom he is called on to treat, jot down also the name of his former physician, the amount collected for him, and mail it to the physician himself or his dependents. All this may seem a great inconvenience, and in many cases a great hardship, but it is no comparison to what your colleague is enduring for you on the firing line. We have been called on to make great sacrifices but if this war continues another year or two and an army of five million men are to be officered, our sacrifices so far will have been infinitesimal compared to what we will be called on to bear.

It is our duty also to keep in touch with matters legislative in character so that unscrupulous politicians do not put through our state legislature such laws that will interfere with our absent brother's interests and the welfare of his community. This can be done only by putting into effect the plan that Ex-President McAlister brought out in his inaugural address three years ago, and at no time since then has such an excellent opportunity presented itself to bring about this change. For those of you who may have forgotten the plan in substance, it was as follows:

That the state medical society select a man of proper caliber, one thoroughly versed in legislative matters, medical and surgical needs, community needs, health and sanitation; one in fact that can meet the politician in the legislative halls, in his home, in his hotel; one that can dine with him and be one of those who will look after the physicians' needs and when matter pertaining to our profession comes up in the legislative rooms be there, thoroughly conversant, and defend us in an intelligent manner. The politician no longer will look on us seeking favors but see things as they really are. This high type man shall act as editor of our state journal, not to displace our beloved Dr. Stevens, but instead make his position permanent at an increased salary and be a co-worker. This man shall visit all the county societies in the state and familiarize himself with their wants, grievances and increase efficiency and membership. Such a man with the twelve thousand physicians of Pennsylvania unitedly back of him would have the strongest influence and be the most powerful factor for politicians to deal with.

This high type man will cost dollars, and in that way only will we be able to get him. How is this to be brought about? Only by letting every medical man and woman in the state know what we expect to accomplish and will accomplish with such a representative, and then raise the dues in our county societies and the *per capita* assessment to the state society; no man will object when he is informed that no longer will we be compelled to adjust laws, passed without consulting medical men, that are working hardships to communities, laborers and the physician himself.

If we are content to let things drift along, and our society accomplish little or nothing with great danger threatening us, let the dues remain as they are; if, on the other hand, we desire to see our society prove its value and do its part in solving the problems of our profession, do its patriotic duty and be an organization in which we may all feel proud, we must see to it that the means for carrying on the work are provided, and if necessary increase the annual assessment.

We have been legislated, are being legislated and will be legislated until time immemorial and, with health insurance staring us in the face, now is the time for some one conversant with facts to represent us. We do not object to laws that work the most good to the greatest majority, but we do object to being legislated into the hands of politicians and labor organizations. We must, this year, if we wish to continue successfully, raise our dues and *per capita* assessment; and at this time I think it should be done, but it can be done only after we understand the increase in running expense.

232 State Street.

COUNTY SOCIETY DUES AND THE PER CAPITA ASSESSMENT FOR 1919*

JAY B. F. WYANT, M.D.
Secretary of Armstrong County Medical Society
KITTANNING

It is a privilege, a pleasure and, indeed, a great honor to have a place on the program of the secretaries in this their thirteenth annual conference. The subject for consideration is the most important that could be selected. Important, for it has to do with the financial or basic principle on which is built the county medical society as well as the Medical Society of the State of Pennsylvania, neither of which could exist without the annual dues. That both may grow and be of value to the constituents it is necessary that the organization of the several county societies of our great state shall be brought up to the highest possible standard (100 per cent. pure, if you please) both in membership and efficiency. To do this the very best men in the society should be selected and elected to fill the offices; men who have the best interest of the society at heart. A careless, lazy, indolent man has no place in the list of officers in a county medical society, for office confers no honor on a man who is not worthy of it. Let me emphasize this first duty, select the most active and energetic men in the county to fill the offices from the lowest office to the highest in command, and thus secure a 100 per cent. county medical society. I am happy to state that Armstrong County is in this class, every eligible physician in the county being a member with dues paid. Work brings results. From the county societies come the only source that the state society has for revenue.

At the meeting of the state society last year a resolution was passed that the dues of the members in the service of their country would be remitted if the county society would do the same. This, of course, has made a deficit in the state funds. This should not have been done, for I believe that each society would have arranged from its treasury or from individuals of the society to pay the *per capita* for the men in the service. These men give up all they have, practice, home, family and everything for our liberty, and why should we who are at home allow the treasury of our state society to suffer. A little economy on the part of the counties will take care of these dues very nicely. The county society will feel proud of it, the state society will be benefited and the soldier when he comes home again will feel honored. I would not approve of raising the dues nor the *per capita* assessment at this time. The *per capita* assessment of $2.75 per year has brought wonderful results to the state society in the last few years and when you read her financial report you will feel proud that you are a member, and if we stand shoulder to shoulder in organization and get every eligible physician to keep step with us and keep our banner floating high in the breeze, none dare hinder nor make us afraid. We should congratulate our trustees for their financial ability in handling the *per capita* assessment and unless we arrange for the care of the dues of the members who will enlist from now on, our deficit must necessarily be greater. The General Fund notwithstanding its deficit during the past year is over $7,000. The Benevolence Fund has over $10,000. The Medical Defense Fund, after caring for more than one hundred suits for alleged malpractice, has over $10,000, and there is over $8,000 in the Endowment Fund.

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* Read at the Conference of Secretaries at the Philadelphia Session of the Medical Society of the State of Pennsylvania, Sept. 24, 1918.

Fellow secretaries, let us profit by what we have heard in this meeting, take it back to our local societies and spread it to all the home members. Let us do some missionary work so that each eligible in the county shall become a member and do not only his bit but his best. I trust that the good work may continue and even grow better, for with the wonderful results accomplished with the small *per capita* assessment paid I look forward in happy anticipation to the not distant future when our state society in her benevolence fund will be able to care for her members in a more maternal way; when the sight grows dim, the back bowed by the burden of years and income shall stop, that the state society may throw her benevolent arm around the staggering form and say: Have no fear, we will do thee good.

WHAT CAN THE COUNTY SOCIETY DO FOR ITS MEMBERS IN THE SERVICE?*

WILLIAM T. SHARPLESS, M.D.
Editor of Chester County Bulletin
WEST CHESTER

Dr. Stevens is a hard taskmaster. He assigns to us a large subject and then allows us seven minutes in which to speak on it. It is clearly impossible for me to cover the subject assigned to me in the time allowed, and, therefore, I shall confine myself to a single phase of the subject. As we all know, the members of the county medical societies voluntarily agreed to look after the practice, as well as the other interests, of the men who entered the medical service of the Army and Navy; to collect the money for attendance on their patients; to pay over a certain percentage, from 30 per cent. to 50 per cent. of the collections; and to return the patients to them on their return from service. It was an attempt to a small extent to divide the burden between those left at home and those who entered the service.

This was an admirable arrangement. It was in keeping with the best ideals and traditions of the profession. It was in accord with the spirit of the principles of ethics of the American Medical Association, which is nothing more nor less than the application of the principles of Christianity to the daily life of the physician. This is the ethical side, but it had another side. We know that many men entering the medical service of the government were anxious about the support of their families and others dependent upon them, and in many instances it was necessary for them to curtail expenses in order to live within their reduced income. In fact, I believe many men did not enter the service because of this feature of the case. But when they felt that the physicians at home would assist in the way I have indicated, it opened the way for many enlistments and added many men to the service. It, therefore, had a patriotic side as well as an ethical one.

The arrangement has now been in operation about a year, and the evidence gathered from many sources indicates that, with some honorable exceptions, comparatively little money from this source has been paid to the families of those who have gone into the service. Many explanations have been offered for this fact. War is full of mysteries, but one of the great mysteries of the war as it applies to the medical profession is, what has become of the practice of men who have gone into the service? We know that many men have endeavored to live up to the spirit and the letter of the agreement and yet they have collected but little from this source. It has been suggested that this is because any man's practice is largely personal to him. Patients probably first send for a physician because they are ill, but we all know that they keep on sending for him, in many instances, because they like him and because he has become the general adviser to the family. They do not send for a new doctor on these grounds, and often would rather not send at all, unless the case is urgent.

Often, too, a physician honestly does not know that a patient belongs to another man. I had a case of a family I had attended who left me and went to a physician who entered the service. The patients then came back to me, and I found out only by an accident that they had ever left me. It is suggested, too, that when a patient knows that the physician who is treating him receives but half of the fee, he will suspect that he will give him only half service and so conceal the fact that he is the patient of a man in the service. This attitude is, of course, highly uncomplimentary to the physician.

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*Read at the Conference of Secretaries at the Philadelphia Session of the Medical Society of the State of Pennsylvania, Sept. 24, 1918.

Cases often arise, too, where there is an honest doubt where the fee belongs. Suppose Dr. A. has attended a family for years and they conclude to leave him and call in Dr. B. Dr. B. goes into the Army and they call in Dr. C., who contracts an illness and goes into the hospital. Then they call in Dr. D., who in a short time enters the Army also; after which, with many apologies and explanations, they go back to Dr. A. Where does the fee belong in that case? Or suppose a patient lives in a large town, New York for instance (only it wasn't New York), and had been attended by Dr. A. for thirty years. Dr. A. concludes that he will go into the Army, which so incenses his patient that she dismisses him. In the summer time this patient has lived in the country, when she has employed Dr. B., though Dr. A. occasionally visited her here. She now goes to her country home and sends for Dr. B., who attends her with great profit to himself. What division of the fees should be made in this case?

No rule can be made applicable to all of these cases, but the general rule should obtain that whenever there is doubt, the man in the service should be given the benefit of it. But after all allowances and explanations have been made, there remains the fact that medical opinion, as gathered from the bulletins of the county medical societies, believes that there is a great deal of profiteering at the expense of the men who have gone into the service. Some of the self-accusations contained in these bulletins are very humble and amusing. The *Medical Society Reporter* up in Lackawanna piously calls on Heaven to pity and forgive their members for their money grubbing tendencies.

This keeping back of money that should be paid over to the men in the service seems to be a particularly insidious form of temptation. The other day a lady came into my office who was a stranger to me, and I found out that she had been a patient of Dr. A., who more than a year ago joined the service, since which time she had been a patient of Dr. B., who recently had also gone into the service. She had regularly paid Dr. B,, and he had made no return of it to Dr. A.'s family, as I learned from them. Here was a man who was patriotic enough to leave a good practice and a fine prospect to face the loss and danger of the service, but he was not patriotic enough to divide the fee with another man who had preceded him in the service.

Irregularities in conduct are not confined to the men at home, and if we are fair all around, we must mention them. I heard of one man who, before he left for the Army, gave to the other doctors of the town a list of those whom he considered his patients, and which included all those to whom he had in twenty-five years' practice rendered any service whatever, whether they were his patients at the time of his leaving or not. Any one can see what a row this would cause. Another man who entered the service is a member of a church which has a great many members everywhere, and whose members are noted for their disposition to hold together under all circumstances and help each other. Since he is gone, if any other physician visits a member of that church, he is first informed that he is Dr. A.'s patient — an arrangement for revenue only which is said to be very productive. We will all see, I think, that this stream of patriotism is not altogether undiluted. As the stump orators would say, they have not laid a whole-hearted sacrifice on the altar of their country.

It is useless to speak of these things unless we are prepared to offer a remedy. It has taken us about one year to realize that we may be delinquent. It should not take us another year to remedy these delinquencies, and I suggest that each secretary bring the matter up at his next meeting of his county medical society and have the matter referred to the proper committee for investigation and report. If men are found to be taking advantage of the situation, they should be exposed and punished. If no such abuse is found to exist, the profession should be relieved of the discredit that now attaches to it.

I am sure that this has been a mercenary address, but there is much more on the subject than the mercenary features. The good name, the honor and the patriotism of the physicians of Pennsylvania are involved. We shall be entitled to a very small share in the victory that is surely coming if we use the absence of other men to promote our own selfish purposes while they are facing danger and loss in a great struggle for a great principle.

100 Church Street.

WHAT CAN THE SOCIETY DO FOR ITS MEMBERS IN THE SERVICE *

JOHN M. QUIGLEY, M.D.
Secretary of the Clearfield County Medical Society
CLEARFIELD

This is a subject which has engaged the attention of probably every secretary in this room, not once, but many times since our true-hearted, whole-hearted, loyal brothers of the great American medical profession have stepped forward at the solicitation of our government and said: I will give up my lucrative practice, break my family ties, lay aside my civilian garb and take on me the honored uniform of my country and cast myself into the maelstrom of this world conflict that the boys who shall carry Freedom and Democracy to the uttermost corner of the earth may be protected from the ravages of disease and be cared for when the missiles of the hell-directed Hun shall have stricken them down.

These are days when every American must show his colors and we, who remain at our fireside and for whom the men in khaki are sacrificing their all, if need be, should in no uncertain manner prove to the world that we are in no sense recreant to our duties nor oblivious to our responsibilities. To do this we must sacrifice in every way of which we are capable, and our uppermost thought should be to give support and encouragement to the men who are fighting our battles for us.

It is as necessary that the home industries be perpetuated and that production shall be unceasing as it is that the rifle be carried, and if this is to be done we who remain at home must do double duty in order that the producers at home may be kept in health and thus able to produce faster and more abundantly than ever before. Many of the people who compose the "Second Army of Defense" have hitherto been cared for by the men who are now in the service. It therefore becomes our first duty to care for them and we should at the same time see that the practice of the man in the service shall be protected so that when he returns, as we pray God he may, he shall not find it necessary to win it back from those who have filched it during his absence, but shall find those whom he has protected with his blood extending to him a glad hand, proffering to him the patronage of all who have been cared for in his absence and saying, "Here is thy talent with usury."

This has been the purpose of the whole profession; many have been the plans devised and all have met with varying degrees of success and failure (with the emphasis, I am sorry to say, on failure). The plan which the Clearfield County Society adopted was modeled after the plan of the Allegheny County Society, though not so elaborate; in the main it was a failure. In Clearfield, where the members have been brought into close association with one another and consequently the spirit of brotherliness has been developed to a considerable degree, it was more successful than in the outlying districts where the members are more isolated from each other and consequently not so thoroughly knit together by ties of friendship. Here, fellow secretaries, is food for thought. It is my contention that the more men of intelligence are brought together the more they must cooperate and the more they become knit together in a common brotherhood. Why should it not be possible for us as secretaries to bring our members together in little informal meetings, teaching them in this way to respect one another's viewpoint and bringing to them a realization of the fact that the other fellow is not such a bad sort after all. It is worth while and it brings results.

After trying the plan adopted for some months we found that only three or four men were being benefited at all and only one to any appreciable extent; that the great majority were not receiving a penny, and that the benefit to those who did receive it came from only a few members who were loyally doing not their bit but their best. We also found that the member in service who could best afford to sacrifice was benefited while the member who could least afford to sacrifice was not being helped in the least. We therefore decided to change the plan for a more democratic one in which each member in the service should receive something and in which that something should come from every member at home. The plan, in brief, was that every member of the society shall pay into the War Fund a minimum of $5 per month and as much more as he can, while those who do work for absentees shall continue to remit as before 35 per cent. of the collections from such practice, provided such percentage amounts to $5 or more; all remittances so received by the War Fund Committee to be pooled and divided among the families of the absentees according to dependency at the discretion of the War Fund Committee. We are aware that there are many arguments which may be brought against the plan and that it has some weak

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points which could with difficulty be defended, but it seems to be bringing better results than the former plan, although I confess it is as yet too young a creature to be judged.

The one thing to be considered, in my humble judgment, is not how much money can we turn over to the family of the absent brother practitioner (though the importance of that matter cannot be too strongly emphasized), but the preserving intact of the practice which has been left behind and the return of it to the member when he shall return, and we as secretaries should see to it that our Bulletins speak in no uncertain tones regarding this. No word should be spoken by any member of the profession which would engender in the mind of the laity a supposition that the man who now does their work is more satisfactory than the man who formerly did it and no man should allow any inference by any one which would in any way lessen the confidence of the laity in the loyal American who stands behind our boys with his scalpel, ligature and bandage.

Another matter which occurs to me in the way of bringing encouragement to the members in the service is the matter of correspondence; I am told by many in the service that the thing most craved by all is a letter from home. I am sorry to confess a laxity in this matter though I have tried to see that the Bulletin reaches them as far as possible, but let us obtain the addresses so far as possible and write, at least occasionally, and let them know that we are thinking of them. The effort will not be great and the pleasure we may thus bestow on them will be incalculable.

The next and by no means the least thing we may do for the men in the service is to "keep the home fires burning." Let us see to it that our county societies, our state society and our national association do not suffer by the absence of the boys over there. I think that I will not be contradicted when I say that just about half or scarcely half of the members of the county societies attend the meetings as a rule and that a large proportion of those in the service are men who took a lively interest in the affairs of the county society; if this be true it is up to us who remain to more than double our efforts to keep up the organizations and to this end we should exert ourselves to get those who do not attend into the habit of taking an interest in the work of the society.

The state society with royal abandon at the last session voted to remit the dues of all members in the service provided the county society should vote to do likewise. Many societies took advantage of this offer and as a result the state society found its treasury deprived of a large part of its annual revenue. The cost of publishing the state journal increased, the expense of holding the annual meetings did not diminish, the expense of protecting our members in suits for alleged malpractice did not decrease and all the expenses of the state society were advanced by the natural conditions incident to war.

Some one suggested that the state society could ill afford to lose this considerable revenue at a time like this and immediately some of the county societies which had taken advantage of the offer voted to draw an order in favor of the state secretary for the dues of all their members in the service. This was a most laudable action, and it is to be hoped that every county society shall immediately take up this matter and act on it. We cannot afford to weaken the treasury of our state society in the least, for who can tell what day some shyster may make us hope that the society which shall protect us in a suit for alleged malpractice shall be possessed of unlimited financial strength. This is a business proposition which should appeal to every member of each county society and should be acted on at once.

"Count that day lost whose low descending sun" finds for our men in arms no helpful duty done. Then when they return we can look them squarely in the face and say: Welcome Home.

922 Dorey Street.

THE COUNTY SECRETARY *

FLOYD M. CRANDALL, M.D.
Secretary of the Medical Society of the State of New York
NEW YORK

When Dr. Stevens honored me with the request to address this conference of secretaries, he enclosed a reprint of an article written some years ago by Dr. John B. Donaldson. In this admirable article upon the duties of the secretary of a county medical society, I have found my text for this brief address, and it reads as follows: "Show me your secretary and I will tell you whether your society is a success or a drag. If he is prompt, active and energetic, the society is bound to be a good one. I firmly believe the society is just what he sees fit to make it."

In my dealing as a state secretary with sixty county secretaries I am strongly impressed with

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the truth of this statement. Except in the case of a few very large societies in the great cities, it has been my experience that the society strongly reflects the character of its secretary.

If this be true, it is proper to inquire what the qualifications of an efficient secretary must be. I would name five qualities as requisite for the highest type of secretary. He should be a man of business instinct, accurate and methodical, prompt, vigorous and possessed of a sense of responsibility.

This is an age of business efficiency, business methods have been developed to a degree never before known. No business firm that does not keep up with the most advanced business methods can prosper in these days. Large medical societies have learned much from these business methods, and the successful ones are conducted upon modern principles of efficiency. A card index system is very generally used and is applicable to the needs of the smallest societies. In the office of the New York State Medical Society, the various indexes contain about 85,000 cards. Thorough methods of indexing and filing are used in all vigorous and up-to-date societies. It is impossible to enter here upon the various details of business management which the businesslike secretary may adopt, but such methods are imperative if a successful society is to be maintained.

A secretary should be accurate and methodical in his work. This applies to his keeping of records, to the sending of notices, and to the keeping of his minutes. Lack of accuracy may lead to serious harm both to the society and individual members.

The secretary should be prompt in all his work. Every official communication should receive immediate answer. If a full answer cannot be promptly written, an acknowledgment of the communication should be sent and the complete answer may follow. The originals of all communications should be retained and placed on file. Copies may be made if necessary, and a copy of the reply should always be made. The original communication may be of the utmost importance at a later date, and should never be surrendered by the secretary. I have known serious diagreements to arise in societies from failing to observe this rule.

The secretary should be vigorous and active. He should be a leader and an originator and should not be content with keeping the pace set by others. He should ever be on the alert, and be the pace-maker of his society.

The successful secretary must possess a sense of responsibility. He must realize that he has assumed an obligation, which should be lived up to. He has duties to his members which he should never shirk. Laxness on his part may jeopardize the standing and reputation of the members of his society. He must be willing to do more than is required by the letter of the by-laws. In the county society, the secretary is the real executive officer. The county presidency is in no sense an executive officer like the presidency of the United States and of many corporations. The president may do much, and often does much, to advance the interests of the society, but his powers and responsibilities from the nature of the conditions are in no measure equal to those of the secretary.

In New York large judicial functions are vested in the state secretary. He is the mediator and advisor in questions involving interpretations of the constitution and by-laws. His decision is sought when such questions arise between members and between county societies. In this portion of the work, I have been impressed by the great proportion of controversies which result from failure on the part of county secretaries to consult their by-laws before taking action. So much, indeed, have I been impressed by this fact, that I have especially addressed my secretaries upon the importance of constantly consulting their by-laws. A secretary may feel that he knows his by-laws thoroughly, but a question will often arise, presenting a new problem or appearing in a new form and some sentence or even portion of a sentence of the by-laws may be found which may throw a different light upon preconceived opinions. I have, therefore, endeavored to impress the officers of my county societies with the importance of this rule: never render an official opinion or take official action, without first consulting the by-laws.

I am now going to take a rather unusual step by taking a secondary text. This text I find in a recent address of your president, Dr. Walter F. Donaldson, a worthy son of a worthy father. This is the second text: "The most important subject for our consideration during these war times is the maintenance of our organization." He very wisely asserts that it is the duty and should be the pleasure of the stay-at-homes to provide the energy, the funds, and the devotion necessary at this time. There has been no time since the civil war when the importance of maintaining our medical organization has been so great as it is now. I believe that the value of our organization, as carried from the county to the state society and up to the American

Medical Association, has rarely been questioned. Those physicians who have desired to enter the government service have found this organization a profound help, and their membership a valuable asset. When it is discovered by the government officials that an applicant for the Medical Reserve Corps is not a member of the county and state societies, they are apt to inquire the reason. I have received a large number of inquiries regarding the standing and character of such applicants. As a result of the appreciation of this value of membership, the New York Medical Society has made a net gain of 347 members since January 1, and is 36 ahead of its membership at this time last year.

I have not given these statistics out of pride for New York, but rather to show that we are not in a losing campaign if we stand up and fight. If the physicians of Pennsylvania will put up a good fight for their societies, over here, under Van Sickle and Stevens, they will attain results, as our men over there are attaining results under Foch and Pershing. You secretaries will not attain results if you go to sleep in a bomb-proof dugout.

The duty of maintaining the membership and sustaining the organization rests upon every member. The members not holding official positions should be impressed with the fact that they have a duty in this direction. This duty lies particularly heavily upon the county secretaries. It should be a responsibility upon them to watch particularly that members do not slip away through nonpayment of dues or other causes. Unusual efforts should be made to increase the membership. This can be best done through personal appeal to desirable physicians who are not already in the society. If the secretary cannot make this appeal personally, he may often induce some professional neighbor of the physician desired or some member in his town to make the appeal and induce him to apply for membership. Every additional member is an advantage, both from the financial support he brings to the society and the value of weight of numbers.

Again I would say that the importance of maintaining the organization in the most efficient possible condition can scarcely be overestimated. This duty rests not alone upon the county secretaries but in a greater measure upon the state secretaries, because of the wider extent of their duties. I can assure you that there are two states at least, Pennsylvania and New York, in which these responsibilities are fully appreciated by the state secretaries. I need not tell you of the assistance you will always receive from your state secretary, but would urge you to give to him the continued assistance so necessary for the adequate performance of his duties. Vigorous and conscientious teamwork between the county secretaries and the state secretary will hold the medical organization in any state up to standard in these troublous times.

113 West Ninety-Fifth Street.

DISCUSSION

ON PAPERS OF DRS. MC ALISTER, DONALDSON, VAN SICKLE, MAYER, LENKER, WYANT, SHARPLESS, QUIGLEY AND CRANDALL

DR. ANTHONY F. MYERS, Blooming Glen: I think Lieutenant Lenker sounded the keynote when he said that it was up to the secretaries and members of the county societies to get together and invite the members of the legislature from their respective counties to be the guests of the county societies. We did it in Bucks County, and our legislators have never gone back on us. We had two meetings and discussed the legislation. We met at a hotel, had a good dinner, and had some other guests in addition to the members of the legislature, with a good man to talk to us. Everything that we wanted, the legislature gave us. We kept tab on the legislators, and know that they did not do a single thing that we did not want. What more can you do? Have the members of the legislature attend your meeting, meet them face to face, and have a good time at the table; you will win.

MISS ELIZABETH MCSHANE, Assistant Secretary of the Health Commission: There are two parts to the Health Commission appointed by the last legislature, the members of the committee and the investigating staff employed to get the facts for the commission; and I want to say a word in regard to the investigating staff. Of course, you all know and have heard today that health insurance is a subject on which there is a wide difference of opinion. You find opposed to it men of the standing of Hoffman; and in favor of it, men of the standing of Dr. Alexander Lambert. You find the same difference of opinion among the labor unions, social service workers, hospital workers, etc.

There has been enough interest manifested in health insurance to secure the appointment of a Health Insurance Commission. I think that it is rather unfortunate that it was named the Health Insurance Commission, because this implies that the commission is in favor of health insurance. I hope that the medical profession is not going to count us as an enemy and plan to oppose us before they know what we are interested in doing. So far as the investigating staff is concerned, the investigation is entirely neutral. We are trying to find out precisely how much sickness there is in Pennsylvania; how much this sickness is costing the state, the employer and the employee; whether sickness is increasing; whether, among workers, it is interfering with the efficiency of war industries and, hence, with the efficiency of the state; and whether there is needed a method of meeting the problem and reducing the amount of sickness. We know that sickness is a real problem, that it is increasing, that there is inadequate maternity care, and that sickness is a tremendous burden on industry; but we do not know what means our commission should recommend to meet that need, and this is where we come to the state medical society and ask you to help.

I think I can speak thus far for the commission (and if I do not tell the truth exactly, I know that Dr. McAlister will correct me), that at no meeting has any member of our commission stated that he was in favor of a health insurance system for Pennsylvania at this time. On the other hand, it has been brought out repeatedly that the members of the commission know so little about the health conditions of the state that they do not feel justified in recommending any method of sickness prevention at present. But as the time approaches when we must make our report to the legislature, we need the cooperation of the medical profession, the Federation of Labor, representatives of the hospitals, and all other agencies interested in dealing with the sickness problem. We wish that we might have from each county medical society that kind of cooperation which will enable us to make up our minds about a report to the legislature that will meet with the approval of the state medical society.

So I have come to this meeting, and I want to ask that you will be interested in the problem of social insurance. If you are opposed to it now or if you are in favor of it, does not make any difference; because the problem is to find out whether social insurance would suit the state, or whether some other system would be better. Our office is in the Franklin Bank Building; and if, during the meeting, you will come in, the members of the investigating staff will be glad to show you what we have done in your county and give you literature on the subject of health insurance and other means of reducing sickness among working people. We hope that we shall see you, and that you may remember that there is a commission working on this problem and be prepared to help us with an open mind.

Dr. John B. Carrell, Hatboro (member of Bucks County Society): I am sorry to make a statement contrary to that of our splendid secretary of Bucks County, Dr. Myers, and I will corroborate what he has said in regard to giving the members of the legislature a bang-up dinner. They had a splendid time; yet I think that the worst offenders against the medical profession of the state were two that were present at that dinner, Fretz and Buckman.

Dr. Myers: They went back on us on the Optometry Bill; we went after them after they had given the decision in Harrisburg, and they apologized. That is the only thing in which they went back on us. The meeting and dinner they attended took place after they had voted on that bill.

Dr. J. Newton Hunsberger, Norristown: I want to ask Dr. McAlister, or whoever knows, who started the propaganda for health insurance in this state. Who was back of it? Who had the committee appointed in the state? There seems to be a little misinformation about this. No one seems to want the responsibility, apparently, and yet it passed the legislature, and a committee was appointed. Who started it?

Dr. McAlister, closing: I wish I or someone could answer Dr. Hunsberger, but the whole subject of social insurance is as much a mystery as the workmen's compensation. As far as I understand it, the real instigator of the subject came from New York City. I am informed that there are certain individuals there who are particularly interested in the whole question of social reform, or social betterment; and there are certain parties there who are extending the propaganda, which is being liberally financed by certain persons who can well afford to do so. I do not know that they are socialists, but they are doing it in the belief that they are bettering the masses of people by their scheme. I do not believe that they are selfish. It is not a money-making scheme with the real backers, although some of the workers are being paid for their propaganda work, I have no doubt.

So it is a mystery just who is back of the movement. Yet there are many people in the state who approve of it; and, as Miss McShane has brought out, there is a serious sickness problem. It is startling to me, when I look over the statistics and find what amount of sickness there is in the state that could be prevented. The thing is to get the sick man or woman to attend to the sickness early. Many avoid that, because of the cost.

To go back to Bucks County, I should like to go a step further than has been suggested. You must remember that back of every legislator there is another fellow who is more potent, the political boss. As Dr. Carrell says, Bucks County did more to defeat the amendment to the Workmen's Compensation Act than any other county in the state. Bucks County had the whole kernel of the amendment in the person of Mr. Grundy, president of the State Manufacturers' Association; and I believe that he was the individual who defeated all amendments to the law. I said, in talking to the Delegates last night, that there was no greater opposition to the amendment. It was referred to the Committee on Labor and Industry and, by action of that committee, was referred to a subcommittee—our amendment, along with various others. That subcommittee was under the control of Mr. Grundy; and Mr. Fretz of Bucks County was made chairman of the subcommittee. He (?) kept the amendment out of the general committee, and in the last days of the session of the legislature, it was finally ordered out of the committee by the House. Mr. Fretz was called on to produce it, and he was not there. He had made the boast that he had the amendment in his vest pocket, and all hell would not get it out. Mr. Grundy is from Mr. Fretz' home town, and they were determined that that law should not be meddled with in any way, and insisted that it go over at least two years more. So when you get the promise of your legislator, that is not enough. There is someone back of him who can control the legislator. We must get at him.

As for employers, there are a great many who are liberal. When a man is injured, they say to the physician, "Get him back to work, and I will pay your bill." A lot more would be equally liberal, if they understood the proposition thoroughly. Among our patients, we have some employers of labor. We have means of getting at them and talking the matter over with them. I do not think that it was the Manufacturers' Association that was so much interested in defeating the amendment as it was that the president of that association felt his responsibility in the matter. If these men could be convinced that it is to their interest to have this legislation enacted, they would help us. Senator Buckman was not with the medical profession in the matter of workmen's compensation either.

Dr. Crandall, closing: Dr. Lambert was the first man to see what was coming. He was convinced that compulsory health insurance might be adopted in this country. As chairman of the Judicial Council, he attempted to inform the profession of this country what might come. He succeeded very well, for he woke us all up. We will not be caught in ignorance as was the British profession. He was the man who saw it and made extensive investigation and published the results for the information of the medical profession.

The celebrated "one third" payment plan has caused much discussion in New York. The House of Delegates, at its meeting in the spring of 1917, adopted an elaborate form for the carrying out of this plan which was placed on the secretary to administer. It has caused me more anxiety and more worry than any other duty that has been placed on me, and it has been very expensive to the society. A form of agreement printed on a card was sent to every one of the 14,000 physicians in the state. Blanks were to be sent to each member going into the service, which he was to send to his patients. While these were used properly in the greater number of cases, they were unfortunately used in some instances for the purpose of advertising.

This elaborate system adopted in New York was founded on the English system. Conditions in England, however, are very different from those in America. The American doctor does not own his patients, and the patients do not own their doctors. In England it is more easy to determine whether a family is the patient of a given physician. This question as to whether a patient applying for treatment was actually the patient of the given physician has been the most difficult one for practitioners to decide.

I received recently a very useful hint from Dr. DeLancey Rochester of Buffalo. When called to a patient he had not before attended he would ask "If Dr. X were here, would you have sent for him?" If the reply was in the affirmative, it was clear that that patient belonged to Dr. X, and under the spirit of the law, the "one third" should be sent to him or his family. This simple agreement will aid the specialist who finds it particularly difficult to live up to the spirit of the "one third" idea.

SELECIONS

FEDERALIZATION OF PHYSICIANS

At our annual outing in June last a resolution was unanimously adopted condoning the sentiment expressed by Brigadier-General Noble in his address with regard to the federalization of the physicians of our country. Each and every one of us realizes that the physician today is a vital asset to our army. We know that the present rate of enlistment has not been sufficient to fill the medical complement of a five-million army. We realize that many of our members will yet be needed, and we believe that there is none who is unwilling to support the government in every way. It means a great sacrifice to those who go into the service, and no one can praise too highly those who have already done so. We are compelled constantly, as physicians, even in times of peace, to submerge our materialism by reason of our necessary ethical code, and to add to this we are the butt of ridiculous and unfair legislation; and yet no profession or calling in our country has responded as have we. Over thirty thousand members of the American Medical Association are now in the service.

At present there is a great confusion because of the series of orders emanating from the Council of National Defense. It seems that these far-seeing gentlemen who have sacrificed so much to mobilize and hold ready the medical resources of our nation to hand to the War Department when necessary have met with considerable difficulty in bringing about these things. The Medical Officers Reserve Corps has not been under their jurisdiction, and, while the enlistments in this corps have been due in great measure to their effort, the real authority has come from the Surgeon-General's Office. The establishment of the Volunteer Medical Service Corps had its beginning in the east as the Senior Medical Corps of Philadelphia, which was established for the laudable purpose of collecting the physicians of the country, who are above the age limit for military service or physically unfit, in order that they may be placed in such a manner as to aid in keeping the medical service of the country as nearly normal as possible. This plan had the unofficial approval of President Wilson and the Secretary of War. Blanks were sent out on application and many responded. Recently, the increased army program, the extension of the draft age limit, and the decision of Provost Marshal-General Crowder have confused most of us. The scope of the Volunteer Medical Service Corps has been greatly widened. It now appears that the self-sacrificing and far-seeing gentlemen of the Council of National Defense have included in their program the enrolment and classification of every physician in the country. They have distributed blanks explaining the purpose of the corps, and for the greater part have shown to most of us the necessity of such an organization. But when one reads "to test the loyalty of every physician in the country" as a purpose for such an organization, it seems that this is scarcely necessary. It is rather an affront to many of our men who are eligible for medical service and yet are really indispensable to their communities or to the work in which they are engaged. There are many who have, for this reason, not subscribed to the principles laid down by the Volunteer Medical Service Corps. We have been informed from time to time by the Council of National Defense that no one has the right to decide whether he is essential to his community, to a hospital or to the industry he may represent. It further asserts that this should be only the prerogative of a central governing board, despite the fact that the Surgeon-General has ruled that a man applying for a commission should know himself whether he is essential or not. The Provost Marshal-General informs us that any one may be refused entrance to the army or to the navy if his family or the industry in which he is engaged show legitimate reason for exemption.

As is well seen, this does little to bring order out of chaos. As a result much bitterness exists and many statements have been made which make us see more clearly than ever that because we are physicians we must stand ready as a class to do more than any other profession or calling has agreed to do. None of us objects to this, and yet it seems to the writer that selective action taken at the instance of members of the medical profession, imposing such conditions simply to test the loyalty of physicians and not insisting that this apply to every other individual in the country, is rather undemocratic. We have no personal feeling, since the writer has been a member of the Volunteer Medical Service Corps since its inception and would certainly be a member of the Medical Corps if it were possible, and yet all around we see instances where men have not entered the service simply by reason of the fact that they are really essential. It seems to us that when our government passes legislation requiring physicians to be federalized and designating in whose hands such authority shall be, that it will be time for any one possessed of such authority to state who is and who is not loyal. To speak of any plan which would test the loyalty of a body of men who have already enlisted in numbers exceeding thirty thousand seems to the writer to be scarcely within the bounds of fraternal spirit, which should guide and govern physicians if they be members of the medical section of the Council of National Defense or not.—The Allegheny County Medical Society *Weekly Bulletin.*

THE VOLUNTEER MEDICAL SERVICE CORPS

Judging from the number of inquiries coming to the office of the Medical Society, one is constrained to believe that the questionnaire recently sent out for the purpose of securing material for the formation of the above mentioned corps has very much beclouded rather than clarified the atmosphere for the medical profession. Many questions are being asked as to the propriety, the necessity, or the value of such a corps. The last inquiry was from a doctor who had seemingly gained the impression that the offering of his services for this work might satisfy the government and perhaps he would not need to comply with the government order to register September 12.

It would seem fitting that our great representative journal could and should lay the matter definitely before the profession at large. To be sure, it has taken cognizance of it in its "Queries and Answers" column, but such are not always read, as recent inquiries indicate. To the Bulletin it would appear that the seeming multiplicity of heads would be confusing to the ordinary physician. He hears of many sources of authority and wonders which he should obey or whether he should obey all. In view of these circumstances it has seemed worthful that a statement be made in connection with this subject.

The Volunteer Medical Service Corps is merely another example of the way in which the Medical Section of the Advisory Commission of the Council of National Defense has appropriated executive powers and functions never conferred on it. There is no other section of the Advisory Commission that has ever assumed any executive functions such as has been assumed by the Medical Section. The Volunteer Medical Service is a sort of society, of which the members have nothing to say about its organization and management. It is presented to the medical profession with its officers duly selected by a hand-picking process of the chairman of the Medical Section of the Advisory Commission.

The physician who joins the Volunteer Medical Service Corps simply enters into a gentleman's agreement to volunteer for military service if the Central Governing Board of the organization asks him to do so; he also agrees to comply with any requests for service made by the Central Governing Board. In other words, he delegates such power of choice as he may have to the governing board of the organization. If the physician is of draft age he is delegating power which he does not possess, since the only bodies which have the power of calling up a man for military service or to exempt him from such service are the selective service boards, which act on regulations issued by the Provost Marshal-General. Therefore, the physician who does not join is in exactly the same position, as regards present or future military service, as the physician who does join. The organization has no military standing and membership in it does not in any way change a physician's situation as regards his legal obligation for military service. Membership does not give him any military standing. All that the organization can do for him is to give him a button indicating that he is a member of it. The organization may, if the physician is exempted by his selective service board because of physical disability or other cause, assign him to some civilian occupation which he has pledged himself to accept, but which it cannot compel him to accept. Even the government could not do this unless it put the man on active service and pays him as an officer, or otherwise contracted for his services.

Among other things the Volunteer Medical Service Corps is undertaking to tabulate the profession for military purposes anew, particularly through its director. The profession has already been very thoroughly tabulated by the American Medical Association and there is no doubt that the proposed organization could not have stirred a wheel if it were not for the fact that the American Medical Association had already done this work so well long before our country entered the war. Its first directory appeared in 1906. In fact, there is more than a suspicion that this society is organized largely for the purpose of trying to displace the American Medical Association as an organization on which the Surgeon-Generals may depend for information relative to the physicians of the United States.

There is no reason in the world why a physician should join this society if he does not see fit to do so. The medical profession up to this time has volunteered its service in sufficient numbers to satisfy all the needs of the military forces. It has done so, quietly and unostentatiously. It is, therefore, a good deal of an insult for this Medical Section of the Advisory Commission to try to make physicians pledge themselves to volunteer for service, if needed in the future, as though their course of action during the past had shown that they were unwilling to volunteer and that such a pledge was necessary. The new selective service law, covering as it does some 75,000 physicians, assures the government of having all the physicians that it needs for the proposed military program. The selective service boards are empowered to exempt any physician who can show that his services are necessary to the community or to any industrial or manufacturing plant. These facts are all the evidence that is required that such an organization is an unnecessary and wholly superfluous proposition.

It is no reflection on a physician's patriotism if he does not join this organization. If failure to join signifies anything, it shows some independence of spirit and a disposition not to be awed by a pseudo-military demand, and not to desire to camouflage one's willingness to serve by a pseudo-military rank. —The Chicago Medical Society *Official Bulletin.*

THE V. M. S. C. AND THE SELECTIVE SERVICE

(From *The Journal of the A. M. A.*, Oct. 26, 1918.)

To the Editor:—Desiring information for my own guidance in making selection of physicians for appointment as examiners on Local Boards and Medical Advisory Boards, I made inquiry of the Provost Marshal-General's Office in reference to the use, if any, he had directed should be made of the Volunteer Medical Service Corps. His reply may be useful to medical aides and others, and I send it to you for publication with the sanction of General Crowder.

John M. Dodson, M.D., Chicago.

General Crowder's letter says in part:

. . . the Provost Marshal-General has had no thought of employing the Volunteer Medical Service Corps, as an organization, for any purpose, nor has any need for its aid arisen. On the other hand, many of its members have doubtless been utilized, individually, in the physical examination of drafted men. The medical profession has given most earnest and whole-hearted support to the work of the Selective Service, and no unofficial intermediary is required between its members and the Provost Marshal-General.

F. H. Crowder, Provost Marshal-General.

THE VOLUNTEER MEDICAL SERVICE CORPS

AN APPEAL TO EXECUTIVE COMMITTEES AND COUNTY REPRESENTATIVES OF THE VOLUNTEER MEDICAL SERVICE CORPS, AND STATE COMMITTEES OF THE COUNCIL OF NATIONAL DEFENSE

No official or committeemen representing the Volunteer Medical Service Corps or the General Medical Board of the Council of National Defense is now authorized or has been authorized to favor any organized or unorganized method of coercion in inducing members of the medical profession to join the Medical Corps of the Army or Navy, or the Volunteer Medical Corps. Our committeemen are especially urged against favoring any movement that would threaten to impair a medical man's standing in his local, state or national society because he refused to enroll in the Army or Navy, or the Volunteer Medical Service Corps.

It must be made clear that the Volunteer Medical Service Corps is a volunteer organization which has for its object the enrolment and classification of the profession. Its members are entitled to wear an insignia which will clearly indicate that they have offered their services to the government, when such services are needed. Patriotism cannot be created by coercion. It also must be made clear that the Volunteer Medical Service Corps has for its primary object, furnishing its classification to the Army, the Navy, the Public Health Service, the Red Cross and Provost Marshal, as well as to civilian institutions and communities, as a guide in providing for their needs to the best advantage.

The object of the corps is not to disturb any medical man in the performance of any duty to which he has been assigned by any governmental agency either for service at the front or at home.

Edward P. Davis, President,
Volunteer Medical Service Corps,
Franklin Martin, Chairman,
General Medical Board, Council of
National Defense.

VOLUNTEER MEDICAL SERVICE CORPS CLASSIFICATION

The Council of National Defense authorizes the following:

Interest among the members of the medical profession as to how their services are to be used in the Volunteer Medical Service Corps, once they have been enrolled and have put on the badge which indicates their willingness to serve and readiness to respond to a request from the Surgeon-General of the Army, Navy or Public Health Service, or from the Provost Marshal-General or from the General Medical Board of the Council of National Defense, has led to the announcement by the Central Governing Board of the basic system of classification for the organization. The lines on which the classification is made were determined by the Committee on Classification of the Central Governing Board, and whose report was adopted. This Classification Committee has on it representatives of the Army, Navy, Public Health Service, Council of National Defense, American Red Cross, hospitals, colleges, civilian doctors, war industries.

A summary of these classes follows:

Class I.—These will be the physicians first recommended by the Central Governing Board to apply for commissions in the Medical Reserve Corps of the Army, Reserve Force of the Navy, or for appointment in the Public Health Service. They include physicians under 55 years of age, who are without an obvious physical disability which is disqualifying, and who have not more than one dependent in addition to self; or who have an income or whose dependents have an income sufficient for the support of dependents other than that derived from the practice of their profession.

There are several exceptions provided for because of evident essential needs. Whether a physician's services are essential to his community will be established by the Central Governing Board on recommendation of representatives of the board appointed by it to make a survey of local conditions. Whether a physician is essential to an institution with which he may be connected will be established after conference between representatives of the Central Governing Board and representatives appointed by governing bodies of the institutions concerned. Similarly, the question of whether a doctor is essential to a health department will be established by conference between the Central Governing Board and the head of that health department. The question whether a teacher in a medical school is essential to that position will be established by the Central Governing Board and representatives of the institution. Conference between the board and accredited representatives of industries concerned will determine whether doctors employed as industrial physicians are essential in those positions. A physician essential on his local or medical advisory board will not be disturbed.

Class II.—In Class II are physicians under 55 years of age who are without an obvious physical disability which is disqualifying, and who have not more than three dependents in addition to self. These will be recommended by the Central Governing Board, when the need exists, to apply for commissions.

Exceptions in Class II are the same as in Class I.

Class III.—These are physicians under 55 years of age who are without an obvious physical disability which is disqualifying, but who have more than three dependents in addition to self; and they are the physicians included among the exceptions from Classes I and II, namely, those essential to communities, institutions, health departments, medical schools or industries. They will be recommended by the Central Governing Board to apply for commissions when the emergency is so great as to demand their services.

Class IV.—In Class IV are the physicians who are ineligible for commissions in the Medical Reserve Corps of the Army or Reserve Force of the Navy, but who are available for all other services. The physicians in this class include those over 55, those having an obvious physical disability which is disqualifying, and those rejected for all government services because of physical disablity.

THE COUNTY SOCIETY SECRETARY

Medical men in administrative affairs are prone to "pass the buck." As a result the success or failure of many county societies rests absolutely on the executive conscience of its secretary. Many men thus honored are responsive; others are not. For this the rank and file of members are responsible. If a society finds that its confidence has been misplaced, steps toward reform should at once be instituted. If, on the other hand, the secretary proves himself the right man in the right place, he should be supported to the utmost. He should be provided with sufficient funds to maintain his publication and to execute the duties of his office. Members should respond promptly to his suggestions and to their own obligations, remembering that the secretary but reminds them of their duties assumed with membership.

INCREASE OF DUES

If medical organizations — county, state and national—can maintain their present standards or make future progress without increasing the amount of their annual dues, they stand in a class alone. Actual administrative expenses have doubled; economic advances already planned will increase administrative expenses.

If every component county society in Pennsylvania were to double at once its present annual dues, it would result in a short time in increased efficiency in every direction and the marvelous comfort of a balance in the bank. It would furnish easily the financial strength to pay the state society *per capita* of absent military members, and the financial position to meet the increase in this *per capita* which must come soon.

We note from publications received that several county societies have already introduced the necessary legislative changes to increase their dues, and it is to be hoped that their example will be followed before Jan. 1, 1919, by each county society in the state.

PUBLISHED PROCEEDINGS

Interest yourself sufficiently in your state society to read in this issue the Minutes and Reports of the House of Delegates and the Secretaries' Conference. These bodies composed of your chosen representatives are the pioneering law-making divisions of the state society. Digest their reports; conceive the extent of their power; and perhaps in the future you will give deeper thought to the choice of your delegates and alternates.

COMPULSORY HEALTH INSURANCE

Several live topics were discussed at the recent Secretaries' Conference (see page 58 of this issue); none, however, of more pressing importance than health insurance. Wars and epidemics come and go, but political and social schemers are with us always.

From whence springeth the demand for compulsory insurance? Do physicians demand it? Does organized labor favor it? Is the employer or the taxpayer anxious to take on this additional burden? Can it be possible that those who prowl and prey are interested in the evolution of this social legislation leading to the creation of a new and ponderous bureau of patronage?

It is estimated that it will cost seventy-five million dollars annually to administer the plan.

Remember, the assemblyman from your district will soon go to Harrisburg. He in all probability will not be there long before he is approached on the subject of compulsory health insurance. "Wise him up" on your views before he leaves home.

ESTIMATED COST OF COMPULSORY HEALTH INSURANCE—DEFEATED IN ILLINOIS

"The cost of operation will be enormous, and therefore against the best interests of the taxpayer, the employer and the insured. It is a matter of record that the administration of such funds, as demonstrated by the Associated Charities and kindred organizations, costs over half the fund. Under such a scheme as this compulsory health bill, the tax burden would increase tremendously. Let us see what this law would cost the state of Illinois.

"At $24 *per capita* per year, which is the lowest estimate yet made, Illinois' annual bill for state provided sickness insurance for its 2,400,000 workers of all kinds would be

$57,600,000. Forty per cent. of this, amounting to $23,040,000, would have to be paid by employers who would increase the cost of commodities, which means that in the end the public would have to pay the increased tax; $23,040,000 will have to be paid by the workers themselves and $11,520,000 will be paid out of the state treasury.

"This increase will be on the state tax alone, but it would not end there. The whole cost to every township, city, town, village and county must also be paid by increased taxes, and after the taxpayer has figured out just how much the whole tax amounts to, he can, if he is an employer, add on 40 per cent. for the cost of the insurance of his own employees. In Illinois the employer taxpayer will find the sum to be paid by him is approximately $40,000,000. Conditions in Illinois are not such as to warrant this huge expenditure."

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported up to October 22:

Allegheny County: *New Members*—A. Howard Aber, Dravosburg; Chas. N. Cohn, Duquesne; Isaac S. Diller, Wm. E. Kriess, D. G. Lerch, S. R. Phillips, John DeV. Singley, Pittsburgh; W. A. Hodkinson, Santa Monica, Calif.; J. Elmer Magee, Camp Greenleaf, Chickamauga Park, Ga. *Removal*—William M. Barnette from Sunbury (Northumberland County) to c/o C. V. R. R. Co., Chambersburg (Franklin County). *Deaths*—T. J. Moran, Lieut. M. R. C. (Georgetown Univ., '01; Univ. of Pennsylvania, '04), in Pittsburgh, October 17, aged 37; Francis G. Gardiner (Univ. of Michigan, '80) in Pittsburgh, October 22, from pneumonia, aged 68; Astley C. Clark (Western Univ. of Pennsylvania, '91) in Pittsburgh, October 21, aged 49, from influenza and pneumonia.

Blair County: *Removal*—Wilbert L. Grounds from Roaring Spring to Washington (Washington County).

Chester County: *Death*—G. Wilds Linn (Univ. of Pennsylvania, '72) at Malvern, September 26, aged 74.

Delaware County: *Death*—Frances N. Baker (Woman's Med. Coll. of Pa., Philadelphia, '77) in Media, September 30, aged 80.

Erie County: *Removal*—Vern W. Graham from Corry to Linesville (Crawford County). *Death*—Owen H. Foringer (Univ. of Pittsburgh, '13) in Erie, October 20, from influenza, aged 32.

Lebanon County: *Death*—Isaac Kalbach Urich (Jefferson Med. Coll., '82) in Annville, October 14, aged 55.

Lehigh County: *Death*—J. Dallas Erdman (Univ. of Pennsylvania, '72) in Allentown, September 6, as a result of injuries received in an automobile accident, aged 62. *Removal*—Elmer C. Bruch from Bethlehem (Northampton County) to 1810 West St., Wilmington, Del.

Luzerne County: *Removal*—Joseph J. Kocyan from Plains to 849 Filmore St., Buffalo, N. Y.

Lycoming County: *Removal*—Mariam K. Frisbie from South Williamsport to Somerset County Home and Hospital, Somerset (Somerset County).

Monroe County: *Deaths*—Elsie U. L. Longacre (Woman's Med. Coll. of Pa., Philadelphia, '10) in Tannersville, October 6, from influenza complicated by pneumonia, aged 34; Joseph F. Miller (Medico-Chirurgical Coll., Philadelphia, '06) in Stroudsburg, September 29, from pneumonia following influenza, aged 35.

Northumberland County: *Death*—James Wallace Ford (Hahnemann Med. Coll., Philadelphia, '05) in Mount Carmel, September 17, from acute dilatation of the heart, aged 37. *Removal*—Charles W. Rice from Northumberland to 32 Linn St., Bellefonte (Center County).

Philadelphia County: *New Members*—J. Solis-Cohen, J. Metz Cunningham, James J. Kennedy, Percy Starr Pelouze, Carl Weiland, Jr., Howell S. Zulick, Philadelphia. *Deaths*—Alfred Reginald Allen (Univ. of Pennsylvania, '98) of Philadelphia, was killed in action in France, September 30, aged 43; Clarence H. Gray (Univ. of Pennsylvania, '05) in Philadelphia, October 7, aged 35; William F. Guilfoyle (Univ. of Pennsylvania, '05) in France, September 2, following being gassed in service, aged 36; John F. Lewis (Univ. of Pennsylvania, '12) in New York City recently, aged 32; Arthur K. Petery (Medico-Chirurgical Coll., Philadelphia, '08) in Norristown, October 2, from pneumonia following influenza, aged 32; William Binder Shick (Jefferson Med. Coll., '07) in Philadelphia, October 3, from pneumonia following influenza, aged 39.

Tioga County: *Death*—William Armstrong DeWitt (Univ. of Pennsylvania, '08) in Blossburg, October 1, from pneumonia, aged 32.

Warren County: *New Member*—Ord Everman, Warren.

Washington County: *New Members*—William H. Alexander, Canonsburg; William L. Dodd, Amity; R. Grant Furlong, Donora; William L. Scott, Joffre; Robert V. Stewart, Monongahela. *Death*—Samuel Allan Lacock (Jefferson Med. Coll., '77) of Canonsburg, in Pittsburgh, September 18, aged 69. *Removals*—Larry D. Sargent from Washington to Frederickstown, R. D. 1; Gabriel F. Tucker from Canonsburg to 606 Iroquois Apts., Oakland Sta., Pittsburgh.

Westmoreland County: *New Member*—James H. Lawhead, West Newton. *Death*—William J. K. Kline (Long Island College Hosp., Brooklyn, '63) in Greensburg, October 4, aged 84.

York County: *Removal*—Herman H. Farkas from York to 416 St. Clair St., E. Liberty Sta., Pittsburgh.

PAYMENT OF PER CAPITA ASSESSMENT

The figures in first column indicate the county society numbers. Second column indicates state society numbers.

1918

9/30	Montgomery (paid at this time on account of	21–34	315–328	
		96	1698	
		104–105	2539–2540	
		131–132	3125–3126	
	which were previously remitted in January and March)			$57.75
10/10	Philadelphia	1798–1804	6827–6832	16.50
10/14	Washington	108–112	6833–6837	13.75
10/22	Allegheny	1084–1086 1099–1102	6838–6844	19.25

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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YORK—Homer D. Baird, M.D., York.

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

NOVEMBER, 1918

THE INFLUENZA EPIDEMIC

Influenza was first recognized in this country this year by the U. S. Naval Hospital, Chelsea, Mass., August 28, the first patients coming from the receiving ship at Commonwealth Pier, Boston, to which place it had been brought from Europe. Since then it has appeared in about every state in the Union and also in Mexico. The epidemic is more or less prevalent in most countries, especially in South Africa.

In Boston the largest number of deaths occurred on October 1, when there were 202, 50 from pneumonia following influenza, and 152 from influenza. In Philadelphia the largest number of deaths occurred during the week ending October 19, when there were 1,644 from pneumonia and 2,953 from influenza. On October 25 there were reported 109 deaths in Philadelphia from pneumonia and 185 from influenza. In October of last year the average daily deaths in Philadelphia from all diseases was 68, that from influenza and pneumonia combined being 7 as against 294 for October 25, 1918, when it was demanded that the closing restrictions be lifted.

The Massachusetts State Department of Health has sent to the health department of every other state information about the course followed in that state where the epidemic first appeared, calling attention to the fact that the best treatment seems to be that with tents and with open-air shacks. Fresh air and sunshine are the most helpful aids which the department has found in the treatment of the influenza.

An editorial on "Serums and Vaccines in Influenza" in *The Journal of the American Medical Association*, October 26, 1918, says that "the main point to keep always in sight is that unfortunately we have as yet no specific serum or other specific means for the cure of influenza, and no specific vaccine or vaccines for its prevention."

Dr. Thomas C. Ely, Philadelphia, a graduate of the University of Pennsylvania, Class of 1887, in a letter to *The Journal of the American Medical Association*, October 26, writes as follows:

To the Editor:—It is universally agreed that in perverted metabolism by bacterial invasion, it is the acidosis that is fatal.

When the system is saturated with alkalis, there is poor soil for bacterial growth. The baneful acids may be neutralized by harmless alkalis, and these seem to act almost specifically. I have uniformly employed, and always with good results, potassium citrate and sodium bicarbonate saturation by mouth, bowel and skin.

For the past three weeks, in the present influenza epidemic, I have seen an average of 100 private patients daily. There have been all degrees of frequency and severity, and in some houses as many as six patients.

As is well known in this epidemic, there has been a very high mortality in cases occurring in pregnant women. I have seen three instances of bronchopneumonia, or "lung patches," in pregnant women, two at term, with complete recovery. Incidentally, I have made the use of the bed-pan imperative, and have absolutely refrained from administering any of the coal-tar series.

I explain to the afflicted persons that they must be patient, and that the fever, aches and pains are inevitable for a few days, and that they must be willing to forego the seductive relief afforded by acetylsalicylic acid (aspirin), acetanilid and other heart depressants. I employ cold applications and the ordinary stimulation by strychnin, aromatic spirits of ammonia, digitalis, quinin, etc. I have always withheld all depressants.

My very successful experience in this epidemic with the saturation of the system with harmless alkalis cannot be dismissed as accidental or unique. It seems to represent an important new medical fact, or one apparently forgotten or generally overlooked. It is so simple and without any possible objection that I urge its immediate trial empirically. Further investigation in laboratory and clinic may follow later.

REGISTRATION AT PHILADELPHIA

The meetings of many of the medical societies scheduled for September and October were postponed because of war conditions. After the epidemic of influenza was well under way other societies decided to omit or postpone their meetings. War conditions and the epidemic interfered considerably with the attendance at the Philadelphia Session in September. Not a few physicians from Philadelphia and near-by places attended some of the meetings, but did not take time to register. The registration, however, reached 819 as compared with 1,379 at the last meeting in Philadelphia in 1915.

On the whole, the Philadelphia Session was a most successful one and the society and the profession is the better for the meeting, as the omission of regular meetings tends to a letting down of efficiency in all departments of society work. The same may be said of county societies, and it is hoped that special efforts will be made to hold the meetings of county societies regularly. Members should plan their work so as to be able to attend when possible and the officers should strive to have good programs.

REVIEW OF THE MEETING OF THE SECTION ON EYE, EAR, NOSE AND THROAT DISEASES

There was a fair attendance of members present at the meeting of the section, September 24. Chairman Stieren read his address, his subject being "Spontaneous Intra-Ocular Hemorrhage." One-half of the papers for the session were devoted to eye subjects, and the other half to ear, nose and throat diseases. It would hardly be possible to discuss in detail the individual merits of each paper within the space allotted to this review. The papers showed careful scientific preparation, and while the discussions were probably not so free as usual, owing to war conditions which limited the attendance, the officers of the section have every reason to be satisfied with their work.

Owing to illness the paper by Dr. William Campbell Posey was not read. A paper prepared by Dr. J. Smith DeMuth, who was unable to be present because of government service, was read and discussed. It is a matter of regret that when the paper of a prominent Philadelphia oto-laryngologist was called for this gentleman neither appeared nor gave any excuse or explanation for his absence.

The paper by Dr. Hunter W. Scarlett on "Plastic Surgery of the Face and Orbit in Relation to War Injuries," with lantern demonstration, was, because of war conditions, particularly timely and well received. The photographs shown were taken from actual patients in French and English hospitals, and showed not only the end results obtained, but the various stages of the operations to attain these results. Among others who discussed this paper was Lieut.-Col. George E. deSchweinitz of Philadelphia, who gave in detail the observations that he had made in the various large foreign hospitals devoted to this class of work. In the very free discussion it was shown there has been no class of surgery that has made such wonderful strides in this war as that of plastic surgery of the face and jaws.

Before adjournment a rising vote of thanks was given to the section officers, not only for the able manner in which the program was prepared but for the impartial way in which the meeting was carried out.

J. F. C.

THE ARMISTICE SIGNED—PEACE

In all probability, November 11, 1918, will be the date history will record as that of the end of the World War. It is confidently expected that the armistice which then became effective will result in peace. With the cessation of hostilities new and grave problems present themselves both to the vanquished and the victors. The period of reconstruction must include not only the demobilization of great armies and restoration of the war injured to such physical condition as will enable them in a suitable environment to engage in useful civilian pursuits, but also the adjustment of numerous civil and social relationships so that a world now "made safe for democracy" shall be governed by "democracy safe for the world." Many of these new problems will require the assistance of members of the medical profession in order that they shall be wisely solved and equitably administered. Many of these new problems afford opportunities to physicians for a still further service to humanity. The splendid response which Pennsylvania physicians have made to the call of the Medical Corps of the Army, of the Navy and of the Public Health Service, as well as in connection with the boards administering the Selective Service Law under the Provost Marshall-General, gives assurance, if any be needed, that the new social and economic conditions will command in their solution a similar altruistic response on the part of the medical profession.

STATE NEWS ITEMS

MARRIED

Dr. Charles J. Stambaugh, Reedsville, and Miss Florence P. Newton, Lewistown, in Harrisburg, September 25.

Dr. James Edward McDowell, Philadelphia, and Miss Lillian Dauphney, Montreal, in London, June 18.

DIED

Dr. Joseph A. McGowan (Univ. of Pennsylvania, '99) in Philadelphia, September 7, aged 43.

Dr. William Franklin Barclay (Long Island College Hosp., Brooklyn, '66) in Pittsburgh, September 9, aged 76.

Dr. Benjamin Charles Guldin (Univ. of Pennsylvania, '70) in Minersville, September 1, from cerebral hemorrhage, aged 69.

Dr. Felix Stanislaus Rynkiewicz (Jefferson Med. Coll., '17) in Shenandoah, August 30, aged 27.

Dr. Lewis A. Shollenberger (Hahnemann Med. Coll., Philadelphia, '85) of Reading, in New Jersey, September 2.

Dr. Gilbert Mord Newburger (Medico-Chirurgical Coll., Philadelphia, '05) in Philadelphia, September 27, from pneumonia, aged 38.

Dr. Ross B. Rowe (Univ. of Pennsylvania, '85) in Reading, September 20, aged 57.

Dr. Zachariah C. Myers (Univ. of Maryland, Baltimore, '81) in York, September 9, aged 59.

Dr. Ernest Albert D. Watson (Howard Univ., Washington, D. C., '09) in Pittsburgh, September 18, from acute nephritis, aged 40.

Dr. Horace D. Hermany (Jefferson Med. Coll., '92) in Mahanoy City, October 22, from exhaustion due to overwork combating the influenza epidemic, aged 54.

Dr. Morris Weinberg (Univ. of the South, Sewanee, Tenn., '04) in Philadelphia, October 1, from pneumonia following influenza, aged 37.

Dr. Warren Walker (Univ. of Pennsylvania, '00) of Philadelphia, was burned to death in a fire which consumed the officers' quarters at U. S. Base Hospital No. 3, Colonia, N. J., October 9.

Dr. Hugh Todd Ryan (Hahnemann Med. Coll., Philadelphia, '14) of Schuylkill Haven, at Fort Oglethorpe, Ga., October 9, from pneumonia following influenza, aged 26.

Dr. Warren A. Van Derveer (Hahnemann Med. Coll., Philadelphia, '10) of Philadelphia and Mount Holly, N. J., in the U. S. Naval Hospital, Portsmouth, Va., October 7, aged 31.

Dr. William Atlee Drysdale (Jefferson Med. Coll., '82) in Philadelphia, October 6, from a nervous breakdown.

ITEMS

The Allegheny County Medical Society has 255 members in the service.

Lieut. Fred B. Shaffer, Somerset, has been reported wounded in the head.

Lieut. Charles C. Ryan, Republic, Fayette County, has been reported as slightly wounded.

Dr. Conrad J. Becker, Wilkes-Barre, was run down and seriously injured by an automobile October 1.

Dr. Harry Lowenburg, Philadelphia, has recovered from his recent illness and has resumed his practice.

Dr. A. B. Hirsh, long the editor of the *Weekly Roster,* has removed from Philadelphia to New York City.

Lieut. William Edwin Park, New Milford, Susquehanna County, has been reported as wounded, degree undetermined.

The State Tuberculosis Dispensaries have been temporarily closed so that the nurses may be used in the influenza epidemic work.

Dr. John A. Kolmer, Philadelphia, who has been conducting an investigation of influenza, has been confined to his home on account of the disease.

Lieut. Cornelius T. McCarthy, M. C., U. S. Army, Philadelphia, attached to the British Army, has been awarded the British military cross for the second time.

Dr. Elmer G. Whinna, Philadelphia, has recently completed twenty-five years of continuous service as physician-in-charge of the Philadelphia Home for Infants.

Dr. Charles M. Rickert, Millersburg, has been appointed assistant chief medical inspector of the State Department of Health, to succeed Dr. John J. Mullowney.

Lieut. William W. Lazarus, Tunkhannock, is one of the Pennsylvania boys commanding the gunners who blazed the way along the Marne and through the woods of Argonne.

Lieut. Thomas R. Adams, M. C., son of the superintendent of the Jefferson Medical College, died at Camp Lee, October 13, from pneumonia, thirteen days after reaching camp.

Dr. Charles B. Penrose has decided that his activities in other directions will not allow him to accept the presidency of the Academy of Natural Sciences of Philadelphia.

Dr. Silas D. Molyneux, Sayre, on October 21, began his duties as surgeon in chief of the Cottage State Hospital, Blossburg, Tioga County, succeeding Dr. William A. DeWitt, deceased.

Capt. Thomas R. Gagion, M. C., Wilkes-Barre, who was wounded in the knee during the Marne fighting, is returning home and will not be able to resume duty in the war zone for some time.

Dr. Mariam E. K. Frisbie, South Williamsport, has been appointed medical supervisor of the State Hospital at Somerset, succeeding Dr. John S. Marian, who resigned to enter military service.

The Pennsylvania Working Home for Blind Men, on September 19, received an anonymous gift of $10,000, conditional on the raising of an additional $90,000. Up to September 19, $61,000 had been collected.

Major Edward Martin, M. C., has resigned from the John Rhea Barton chair of surgery, University of Pennsylvania, in order to give more time to war work. The trustees have elected Dr. John B. Deaver as his successor.

Dr. Thomas S. Blair, Harrisburg, was on October 19 appointed chief of the Division of the Control of Narcotics in the State Department of Health. This division was created by the Legislature of 1917 but no appointment was previously made.

Dr. Donald Guthrie, chief surgeon at the Packer Hospital, Sayre, who was in the University Hospital suffering with pneumonia following influenza for three weeks following the Philadelphia Session of state society, is now convalescing in Atlantic City.

The Pennsylvania Association for the Blind, recognizing the great need for systematic and energetic preventive work, has this year been carrying on a vigorous campaign. A nurse especially trained in eye work and an assistant have been employed for the Pittsburgh field. Efforts are being made for thorough medical inspection of the 90,000 pupils in the 2,200 schools of Allegheny County outside the Pittsburgh limits.

The Homeopathic Medical Society of the State of Pennsylvania in session in Pittsburgh, September 19, elected Dr. Harry S. Weaver, Philadelphia, president; Dr. Harry B. Bryson, Pittsburgh, Dr. Jonas W. Stitzel, first and second vice presidents; Dr. Ella D. Goff, Pittsburgh, treasurer; Dr. George H. Wells, Philadelphia, necrologist; Dr. Roland T. White, Pittsburgh, censor; Dr. Ralph Bernstein, Philadelphia, editor; Drs. George B. Moreland, Pittsburgh, Henry I. Klopp; Allentown, Clarence Bartlett and William M. Hillegas, Philadelphia, trustees.

Pennsylvania Physicians Recently Commissioned.—The following Pennsylvania physicians are reported as having received commissions in the Medical Corps of the Army and Navy since the list in the Journal for October:

Athens—C. M. Coon, E. M. Cowell.
Belleville—G. W. Farquhar.
Bellevue—A. H. Gross, E. B. Henry, G. H. Walker.
Butler—W. A. McCall, D. L. McCandless.
Carlisle—E. L. Whisler.
Chambersburg—J. M. Gelwix.
Christiana—E. V. Kyle.
Dickson City—A. S. Cantor.
Dixmont—P. K. Heller.
Donora—R. G. Furlong.
East Brady—W. S. Wallace.
Farrell—R. A. Kelly.
Friedensburg—H. H. Stewart.
Glassport—E. L. Erhard.
Glenfield—W. R. Lyon.
Glenside—W. H. Huber.
Harrisburg—J. H. Kreider.
Hillsville—W. M. McWilliams.
Imperial—G. M. Sprowle.
Johnstown—R. J. Sagerson.
Lancaster—H. F. Brown.
Lawrenceville—L. C. Smith.
Leacock—W. N. Keylor.
Ligonier—J. B. Johnson.
McKeesport—R. S. Hinchman, S. S. Jordan.
Milford—W. B. Kenworthy.
Monaca—J. R. Gormley.
Morris Run—W. C. Wilson.
Narberth—C. T. Faries.
Nesquehoning—J. Shutack.
New Castle—S. R. W. McCune.
New Holland—L. H. Hendrixson.
Philadelphia—E. H. Bedrossian, H. H. Birney, J. A. Brooke, H. K. Carey, J. M. Delo, H. F. Ewing, H. J. Forman, Jr., R. Goodman, J. F. Gorman, J. W. Holmes, A. P. Keegan, H. M. Kuehner, J. E. Loftus, J. H. McKee, B. H. Mann, C. C. Norris, D. S. O'Donnell, C. H. C. Robelen, J. M. Rosenthal, T. Shallow, A. Silverman, F. W. Smith, H. T. Stull, B. A. Thomas, A. J. M. Treacy, L. Turner, M. A. Weinstein, W. M. S. Welham, C. A. White, C. S. Williams.
Pittsburgh—R. L. Anderson, F. T. Billings, R. H. Boggs, W. C. Bryant, T. B. Carroll, A. W. Crozier, O. T. Cruikshank, J. S. DeMuth, W. B. Denslow, J. E. Flinn, V. S. Gaggin, W. E. Gardner, A. J. Hesser, J. Hodgkiss, A. H. Jahn, C. W. Jennings, C. C. Lange, C. C. McMaster, W. C. Maxwell, R. P. Moyer, H. S. Nicholson, A. W. Sherrill, G. F. Tucker, E. A. Weiss.
Portage—G. I. Yearick.
Pottsville—J. B. Rogers.
Reading—F. J. Gable.
Sayre—H. S. Fish, A. H. Murray.
Sharon—R. S. Hileman, A. P. Hyde.
Shenandoah—T. A. Monaban.
Springville—W. L. Diller.
St. Petersburg—C. W. Beals.
Swissvale—H. W. Morrow.
Tamaqua—W. H. Hinkle.
Ulysses—B. W. Genung.
Washington—G. B. Dunkle, O. G. Lewis, G. W. Ramsey.
Watsontown—F. R. Adams.
Wilkes-Barre—F. W. Gustites.

GENERAL NEWS ITEMS

Dr. George Chaffee of Brooklyn, N. Y., has located in Binghamton, N. Y.

Women Ambulance Drivers.—The New York Hospital now employs several women ambulance drivers.

American Soldiers have had an average gain in weight since entering the service of twelve pounds per man.

The Ohio Public Health Journal declares that 75 per cent. of the schoolchildren of Ohio have remediable physical defects.

Naples was swept last month by a severe epidemic of influenza, some days there were more than a hundred deaths from pneumonia following influenza.

Col. Edward L. Munson, for twenty-five years an officer of the medical corps of the army, has just been promoted to the rank of brigadier-general, and selected for duty on the general staff.

The Ninth Annual Clinical Congress of the American College of Surgeons which was to have been held in New York City, October 21-26, was not held owing to the epidemic of influenza.

The New York County Chapter of the American Red Cross has opened a home for nurses passing through that city on their way to or from the front. It is said that there are about one thousand Red Cross nurses, as a rule, quartered in that city.

The American Hospital Association held its annual session in Atlantic City, N. J., during the week beginning September 23. Dr. A. R. Warner, Cleveland, was elected president, Harold Wright, Cleveland, executive secretary. The next year's meeting will be in Cincinnati.

Brig.-Gen. Peter C. Harris was on October 3 nominated to be adjutant-general of the Army, with the rank of major-general, for a period of four years, beginning last September 1. He succeeds Major-General Henry P. McCain, who recently was appointed to command a division.

The Missouri State Commission for the Blind finds that rural districts are more in need of assistance in preventive work than are the cities. The commission is, therefore, establishing booths at the state and county fairs where exhibits are shown, literature is distributed, and general information given.

Not Many Drug Addicts. — The War Department on October 11 stated that the records of the Surgeon-General's Office show that of 990,592 men examined in the draft up to Dec. 31, 1917, 403 were rejected for drug addiction. To these men may be added seventy-six men discharged for drug addiction after induction and enlistment in the service.

Brig.-Gen. Robert E. Noble was on October 3 nominated for Surgeon-General for the American Expeditionary Forces, to take the place vacated by General Ireland. General Noble has had a wide experience in sanitation and as Assistant Surgeon-General, and is well qualified to take charge of medical matters in our expeditionary forces.

Must Wear Masks.—The San Francisco Board of Supervisors, at the request of the Board of Health, passed an ordinance on October 24, compelling all persons in the city to wear gauze masks as a means of preventing the spread of influenza. Masks may be discarded only in homes or during meal-times. Penalties for violation range from $5 to $100, with or without imprisonment.

Cost of Volunteers and Drafted Men.—In 1914 it cost $24.48 for recruiting a man into the volunteer system; in 1915 it was $19.14, and for the nine months just before the war it was $28.95. During the first year of the war down to April 7, 1918, official reports show that the cost for registering each man was $0.54. The cost for each man called was $1.69, and the cost for each man accepted for service came to $4.93.

The New Surgeon-General of the U. S. Army.—Major-General Merritte W. Ireland, recently chief surgeon of the American Expeditionary Forces, was on October 3 nominated to succeed General Gorgas who retires by reason of age limit. *The Journal of the A. M. A.* says: "Our new Surgeon-General is, therefore, fitted especially to conduct the medical service of the Army through the remainder of the war, as well as in times of peace. He has filled practically every position to which the men who will serve under him may be called—surgeon of volunteers, post surgeon, assistant in the Surgeon-General's Office, supply depot, surgeon-general of the expeditionary forces—a complete record which indicates that the chief will know what confronts each of his subordinates.

Deaths from Influenza.—Boston had 19 deaths from influenza and 27 from pneumonia for the week ending September 14; 172 from influenza and 93 from pneumonia for the week ending September 21; 600 from influenza and 175 from pneumonia for the week ending September 28; 991 from influenza and 225 from pneumonia for the week ending October 5; 850 from influenza and 175 from pneumonia for the week ending October 12; 463 from influenza and 126 from pneumonia for the week ending October 19. Baltimore had 564 from influenza and 793 from pneumonia for the week ending October 19. Chicago had 1,242 from influenza and 863 from pneumonia for the same week. New York had 2,156 from influenza and 2,061 from pneumonia for the same week. Philadelphia had 2,953 from influenza and 1,644 from pneumonia for the same week.

Appointment in the Medical Reserve Corps and Acceptance of Commission.—The important decisions relative to appointment in the Medical Reserve Corps have just been promulgated by the Surgeon-General's Office: (a) Graduates of 1918 will be required to serve one year's internship in a civil hospital before being considered eligible for a commission. (b) No more appointments are being made in the Medical Reserve Corps. All commissions issued are in the United States Army. There is no inactive status in the United States Army, consequently the order to active duty invariably accompanies notices of appointment from the Adjutant-General's Office. The newly appointed officers are given fifteen days in which to comply with the Adjutant-General's orders. A failure to comply or to accept a commission within the specified time will be considered by the Adjutant-General as a declination of commission. The appointment will be canceled and if the applicant wishes a new appointment it will be necessary for him to be reexamined as for an original appointment.

Medical Officers who came into the American Expeditionary Forces with former National Guard units are under the same rules for promotion as govern medical officers originally belonging to the Medical Reserve Corps, the Deputy Chief Surgeon, American Expeditionary Forces, has just announced. This is in accordance with the general order recently issued by the President abolishing the distinctions of Regular Army, National Army, Reserve Corps and National Guard, and specifying there is but one army, the United States Army, and providing that commissions in it may be regarded as permanent, provisional or temporary. The chief surgeon recently announced that medical officers would be placed in grades for promotion based on these factors: Age and length of professional experience, length of service in army, and character of army service with reference to hardships undergone and deeds of gallantry. It was specified also that officers under 31 would not be promoted, except where they had rendered especially distinguished service or had been more than one year on active duty.—*Stars and Stripes.*

COMMUNICATIONS

ANESTHETIC TECHNICIAN

The Rockefeller Institute for Medical Research,
New York, Oct. 1, 1918.

To the Editor: A gradually increasing misconception of the art of anesthesia has led to a rather unique condition of affairs.

We find that nurses and other lay persons may, by the simple acquisition of a few rules, become anesthetists. Large institutions have adopted the nurse anesthetist on the grounds of economy, expediency and even sentimentality. It is argued that these workers can be employed at little expense, that the supply meets the demand and that the feminine element eliminates fear and works for smoothness during the induction of the anesthesia.

These institutions may employ lay persons to take their roentgen-ray pictures and to make urinary, blood or sputum examinations but does any one dream of speaking of these workers as the hospital roentgenologist or the attending pathologist? They are employed as technicians. The nurse who administers an anesthetic is an anesthetic technician. She can never be more without a medical degree for in order to understand the language of anesthesia one must have intimate acquaintance with anatomy, physiology, medicine, surgery, diagnosis, psychology and special branches.

The nurse who in discussion with a medical man attempts to defend a theory relating to anesthesia cannot fail to feel the presumption of it, and, if graced with wit, to see the absurdity of such a position. Yet it has actually come to pass that medical men have suffered themselves to be instructed by a nurse in the theory and practice of anesthesia.

In justice to an important branch of surgery and to our medical confrères who devote their training and their energy to its development let us drop the term anesthetist as applied to its non-medical workers and adopt the term anesthetic technician.

Paluel J. Flagg.

RAILROADS ARE ASKED TO CEASE RIVER POLLUTION

New York, Oct. 7, 1918.

To the Editor:—We are enclosing copy of a letter addressed to Hon. William G. McAdoo, Director-General of the United States Railroad Administration, asking for the abandonment of the unsanitary practice of discharging the contents of toilets from trains on the road-beds of the railways of this country.

This reform has been under discussion at various times, but on account of the difficulties of interstate management and health regulations, no definite progress has been made to protect the public health from this particular danger.

Federal control of the railroads has made possible the adoption of a general plan in this direction, and we hope you will use the influence of your columns to assist the movement.

Yours very truly,
EDWARD HATCH, JR., Chairman,
Committee on Pollution and Sewerage,
The Merchant's Association of New York.

The Merchant's Association has long been interested in protecting water supplies and water courses adjacent to railroad rights of way from contamination, and it has urged the installation of suitable sanitary devices.

AGITATED BY SANITARY COMMITTEE

The matter has been agitated by The Association through the Committee on Pollution and Sewerage, of which Mr. Edward Hatch, Jr., is Chairman.

The need for carrying out the plan advocated by The Association has been generally admitted. The plan has been endorsed by many health officials, both State and Federal.

The matter was called to the attention of Director-General McAdoo in a letter written by Chairman Hatch and delivered to the Secretary in person by him in Washington last Thursday, reading as follows:

"We beg to ask your earnest and immediate consideration of a plan to provide the Pullman cars, passenger coaches, mail cars and railroad workmen's conveyances with sanitary devices to prevent the discharge of the contents of the toilets used on the trains upon the railroad thoroughfares of this country. The present method of flushing the toilets scatters the objectionable and dangerous material from these necessary conveniences on and along the roadbed as the trains pass through cities, towns and villages, defiling the railroad stations and highway crossings.

FOLLOW WATER COURSES

"Usually the railroad lines follow the course of a river, crossing and recrossing the same stream many times, passing over intercepting water courses and over lakes and reservoirs. The majority of these bodies of water are used either for drinking water, domestic or agricultural purposes and the deposit of the material mentioned from the trains is a positive menace to health, especially if the origin of the pollution is from a 'typhoid carrier' or other infectious sources.

"The material that is not thrown directly into the water is washed therein by the rains. That which is thrown on the roadbeds dries and is fanned into mechanical suspension by the motion of the train and enters the car windows, ventilators, dining cars and station dining rooms or nearby houses, scattering broadcast the infected particles containing typhoid, tuberculosis and influenza bacteria. Particularly dangerous is the infection by this dust to the mail matter which is handled and assorted in the mail cars, making a convenient carriage of disease germs into the household and counting house through the delivery of the letters. Also, the bodies and clothing of the passengers are covered with dust and conveyed to the home.

FLIES SPREAD DISEASE

"The flies make their headquarters in or about these necessary conveniences, gathering the disease germs, which they disseminate at the various stations and vicinity when they leave the trains. The results of this unsanitary and unclean custom are evident to all.

"In 1912 a bill was introduced in the New York Legislature to compel railroads traversing the State of New York to provide for the protection of the public health by prohibiting the present form of water-closets on railroad trains. As most railroad vehicles are interstate carriers and the cars of all railroads may have a destination which would take them into states affected by the provision of the proposed law, it was deemed necessary to take legislative action by each individual state, and the cooperation of the respective governors was sought with indifferent success, due probably to complications which might arise over the interstate features.

STATE BOUNDARIES WIPED OUT

"Under your jurisdiction as Director-General of the Railroads of the United States, the interstate boundaries as related to railroads are practically obliterated, and we believe under Federal control this reform on behalf of the public health could be instituted with few complications and little annoyance.

"A large number of cars are now being built and the additional expense to equip such cars with a 'sealed closet' during construction would be nominal. The cars already completed could be altered from time to time when under repair, to meet the provisions of your decree. In the meantime one car in a train of three cars, or that proportion for larger trains, could be equipped with the proposed device, pending the convenient installation of all passenger-carrying equipment of the railroads.

EFFICIENCY FOR THE WAR

"The government must insist on an advanced efficiency of man power at this particular time, and a standard of cleanliness maintained and the health of our people preserved if the accomplishments for which we are contending are to be realized. The benefits which would accrue from this important and far-reaching improvement in the interest of the general health and welfare are manifest."

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

GENITO-URINARY DISEASES AND SYPHILIS. By Henry H. Morton, M.D., F.A.C.S., Clinical Professor of Genito-Urinary Diseases in the Long Island College Hospital; Genito-Urinary Surgeon to the Long Island and Kings County Hospitals and the Polhemus Memorial Clinic; Member of Committee on Venereal Diseases in the Office of the Surgeon-General; Consulting Genito-Urinary Surgeon to the Flushing Hospital, to the Sea View Hospital of Department of Health, New York City, to the Bushwick Hospital, and to the Beth Israel Hospital of Newark, N. J.; Member of the American Association of Genito-Urinary Surgeons; Member of the American Urological Association; Fellow of the American College of Surgeons; Fellow of the New York Academy of Medicine, etc. Fourth edition, revised and enlarged. With 330 illustrations and 36 full-page colored plates. St. Louis: C. V. Mosby Company. 1918. Price, $7.

State Regulation of the Practice of Medicine. By Frederick R. Green, A.M., M.D., Secretary, Council of Health and Public Instruction, American Medical Association. Public Health Series. Issued by the Council on Health and Public Instruction of the American Medical Association, 535 North Dearborn Street, Chicago, Ill.

Roentgen Diagnosis of Diseases of the Head. By Dr. Arthur Schüller, Head of the Clinic for Nervous Diseases at the Franz-Joseph Ambulatorium, Vienna. Authorized translation by Fred F. Stocking, M.D., M. R. C. With a Foreword by Ernest Sachs, M.D., Associate Professor in Washington University. Approved for Publication by the Surgeon-General of the United States Army. St. Louis: C. V. Mosby Company, 1918. Price, $4.00.

Principles of Bacteriology. By Arthur A. Eisenberg, A.B., M.D., Cleveland, Ohio; Director of Laboratories, St. Vincent's Charity Hospital; Demonstrator of Pathology, School of Medicine, Western Reserve University; Visiting Pathologist, St. John's Hospital; Visiting Pathologist, Lutheran Hospital; Fellow, American Medical Association. Illustrated. St. Louis: C. V. Mosby Company, 1918. Price, $1.75.

Dispensaries; Their Management and Development. A Book for Administrators, Public Health Workers, and All Interested in Better Medical Service for the People. By Michael M. Davis, Jr., Ph.D., Director of the Boston Dispensary; and Andrew R. Warner, M.D., Superintendent of Lakeside Hospital, Cleveland. Pages 438; illustrated. New York: The Macmillan Company, 1918. Price, $2.25.

COUNTY SOCIETY REPORT

PHILADELPHIA—OCTOBER

The Philadelphia County Society met October 9, at 8:30 p. m., with President Hammond in the Chair.

Dr. Judson Daland, Lieutenant-Colonel, U. S. Navy, presented a paper on "Observation of Influenza in Naval Hospitals." The cases observed have been in men from 18 to 26 years of age, picked men because of their physique. It is to be remembered that the organism of infection may float in the air for many hours. It enters the human body more particularly by way of the respiratory tract. The period of incubation, apparently, is very brief, from twelve hours to two days. The onset is variable; there may be slight coryza, dry cough, pains in the head, back and limbs with slight fever. Representing the other end of the cycle were two big, husky men, in the pink of condition, at work on board a ship who when admitted to the hospital within twenty-four hours were so prostrated that they could not sit up. The mild type is often accompanied with bursts of perspiration. There is profound weakness with fever lasting perhaps only twenty-four hours. There is marked circulatory depression and such a patient may remain weak for several days, though fever and symptoms are transitory. In the second type the patients have more marked headache and backache with general soreness of the entire body. There is dry cough for two or three or more days and the eyes are markedly brilliant. The majority do not sneeze. The perspirations present in the ordinary cases I am inclined to think are beneficial. In this type also the fever tends to be remittent. The pulse rate in both mild and severe types is disproportionately low with the fever. The respiratory rate is not much altered. The mild type presents a varying amount of râles of the bronchitic character, and later moist râles.

It is a striking fact that in a large number of cases you hear nothing in the lungs; at one or both bases there is silence. That the act of respiration is greatly interfered with on account of the toxemia is probably the explanation of this nonfunctioning lower lobe. Whenever you find a silent lower lobe with or without impairment of percussion resonnance, in a large percentage of cases you will find on the second or third day unmistakable evidence of lobar pneumonia. During an epidemic no physician should put his head to the chest of a patient, but should use the double stethoscope. During the examination if the patient is asked to cough to bring out the auscultatory sounds the physician should be shielded from the direct infection he is liable to incur. The stupor attending the severe form resembles the typhoid state.

The men of extraordinary physique have shown no more ability to combat the disease than the less physically strong. The remarkable change in color, the blueness usually seen in these severe cases, is more marked about the tips of the nose and ears. The pulse shows extraordinary weakness. This is due, I take it, to the toxemia which seems to affect more especially the vasomotor and cardiac apparatus through the nerves or muscle fiber. We have come to look on the thin, salmon-tint sputum as an unfavorable omen. The usual signs guiding us in ordinary times do not guide us in times of epidemic; vast changes may occur in from six to eight hours in the pulmonary or cardiovascular system. The complicating pneumonia in the influenza makes one think of a primary infection and secondary invasion by one of the types of the pneumococcus. The pneumococcus seems to belong largely to Type III or Type IV; occasionally we find Type I. We have noticed an extraordinarily large number of herpes febrilis and of epistaxis; a certain number complicated by jaundice in which the sputum has sometimes been canary color. In these more than half have succumbed. I am inclined to look on the pneumonia as a part of the picture of the influenza rather than as a complication.

In prophylaxis the first consideration is to avoid crowds; in the second place, avoid anyone who coughs. The nurse and the physician should invariably wear the mask. The patient and the articles in the room should be touched as little as is possible. The physician's stay in the sick room should be as short as possible. I have seen the severe toxemias of malaria, of typhoid and of typhus, but I have never seen more grave examples of intense toxemia than I have seen in this epidemic. In the mild forms, the patient will recover if kept absolutely at rest in bed and given nourishing food. In the severe forms with loss of appetite I have seen benefit from the use of the Murphy drip, 3 pints in twelve hours. It seems probable that the nausea is of toxic origin and we have met it by the use of water, thus giving the body opportunity to eliminate the toxins by sweats, the urine and by the bowels.

Dr. Randle C. Rosenberger read a paper on "Bacteriology of the Present Epidemic." In an epidemic like the present the question of the cause arises; we ask also why the disease continues for so long. During the last three or four years the weather has been uncertain regarding sunlight, one of the best of our natural disinfectants. It has been proved by experiment that persons who are ill have shown peripheral leukocytosis with increase in lymphocytes with even an hour's exposure to sunlight. In our bacteriological studies of this epidemic we have failed to demonstrate influenza bacilli. We have found what we thought was the influenza bacillus, but we would not say it was without having a culture to substantiate our findings. The organism most frequently found is the pneumococcus. We have not had time to type it. The next in frequency is the micrococcus catarrhalis. Streptococci and staphylococci were also present.

The cough and the sneeze are the chief mediums of dissemination. The mouthing of toys and the passing of food from one child to another offer a favorable medium also. Investigation of restaurants and cafés shows that drinking glasses are not sterilized. Individual drinking cups should be instituted. The smoking car is another means of dissemination of the disease. It should be called a "spitting car." It is a severe indictment to see the great amount of sputum on the floors of these cars. From the constant grinding by being walked over it becomes dust which is inhaled. In the protection of the nurse against infection the secretions should be handled with the utmost care. The same is true of the undertakers' assistants. In the fatal cases there is a marked edema of the lungs and fluid is discharged. I strongly advise the use of the mask. I would not advise the use of vaccines except in perfectly healthy individuals without symptoms or temperature and even then would have little faith in their efficacy.

Dr. Henry Beates, Jr.: Reference has been made to the failure of the lungs to functionate; the air vessels become filled with serum and the patients actually drown in their own fluids. The same thing is seen in the gastro-intestinal type. In this type the pain is almost as acute as in acute pancreatitis. The bowels refuse to move and volvulus is suggested but the physical signs of obstruction are absent. In the cerebral type there is sudden intense pyrexia with maniacal delirium, the patient needing to be restrained and passing into a state of coma. A patient recently seen had a temperature of 107 F. after the development of what I regarded as acute cerebritis because the symptomatology of meningitis was wanting. Another form raises the question of anterior poliomyelitis, but the four patients I have seen entirely recovered. In one case, an adult, weighing 200 pounds, awoke in the night with paralysis of the extensors of the head, of the spinal column, legs and arms. In a few days the patient recovered except for some weakness of the muscles of the leg. Four cases showing such paralysis were seen within a few hundred yards of each other. In one case of a child there was complete loss of power of the legs, which disappeared on the fourth day. I know of nothing to which this could be attributed except the toxemia of this so-called influenza. In the cases of coalescing lobar pneumonia I have been fairly successful in what would be considered enormous doses of quinin combined with caffein, camphor and digitalis. Feeding is very important; I give predigested food by the rectum when necessary.

Lieut. A. E. Case: I can discuss the subject only from the laboratory standpoint, and this has been rather unsatisfactory. While the disease behaves like the epidemic form of influenza, the conservative opinion is the better one to assume from the bacteriological standpoint since in this connection the subject is by no means settled. In 225 urinalyses 150 showed albumin; in eighty-three cases we found casts, indicating a very distinct kidney irritation. A great many of the cases are associated with marked kidney irritation if not distinct nephritis. The blood cultures in twenty-six cases were negative except in one pneumonia case in which we isolated Type IV pneumococcus. Failure in our work to isolate the influenza bacillus does not mean that it is not there. The matter of the value of vaccine as a prophylactic is still experimental and before being accepted all data should be subjected to critical examination.

Dr. Francis J. Dever: The peculiar temperature curve of this epidemic is to be noted. For the first twenty-four to thirty-six hours it is usually febrile; there is then sometimes a very sharp drop which may last for a day and a half. If the patient is kept in bed you will find that at the end of thirty-six hours there will be no fever; but, there is again a rise of temperature. It was noted that in the patients admitted with temperature of 105 F. and a respiratory rate of 20 with the low pulse rate, recovery would often ensue. It was most astonishing to see these men come in with faces flushed, conjunctiva red; dropping down in the first place they could find and going off to sleep as soon as they were put to bed; in forty-eight hours they were in much better condition. On the other hand the patient admitted with a temperature of 101 F., not appearing to be very sick, with respirations of 25 and over, needed most careful watching. In a considerable proportion of such cases lobar pneumonia developed, the mortality of which is extremely high regardless of any management. The importance of wearing the mask I feel should be placarded all through the city.

Dr. Richard C. Norris: My experience makes me feel that this disease is more serious with pregnant women than with the non-pregnant. I know of but one patient out of sixteen past the sixth month of pregnancy who did not fall into premature labor. I have been called in consultation on the advisability of inducing labor. It is my belief that attempting to induce labor adds to the toxemia the woman is already carying. Nature's protective powers will do more for her than the interference of the obstetrician. Two labors which I have attended in the midst of an attack I have handled as in any other complication by completing the labor as quickly as possible. The woman is apparently relieved by the birth of the child but shows a tendency to become rapidly worse after the baby is born. From the standpoint of the obstetrician, therefore, I would say that pregnancy in this epidemic adds distinctly to the woman's danger.

Dr. Judson Daland: A message from Captain Pickrell, U. S. Navy, states that in the Fourth Naval District there were 15,000 men; that of these, 3,305 have had influenza, 22 per cent.; of these 3,305 cases, 15 per cent. had pneumonia, and of these cases of pneumonia, 31 per cent. of the patients died, the average mortality being 5 per cent.

NECROLOGY

In Memoriam—Alfred Reginald Allen, M.D.

The following resolutions were adopted at a meeting of the Philadelphia Neurological Society, held Oct. 23, 1918:

The members of the Philadelphia Neurological Society have learned with profound sorrow of the death of their colleague, Major Alfred Reginald Allen. Major Allen was for many years a valued member of the society. In 1909 and 1910 he served as secretary of the society and in 1911 as president. To him the society owed neurological contributions of great value and interest. He endeared himself to members of the society by his affability and his personal charms. He was not only an esteemed colleague, but a good friend and comrade. At the call of his country, he promptly enlisted and gave his life in the great fight for liberty.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1918, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Solargentum-Squibb.—A compound of silver and gelatin containing from 19 to 23 per cent. of silver in colloidal form. It is used in solutions containing from 1 to 25 per cent. or more. It is also used in the form of bougies or suppositories. No precipitate is produced when sodium chlorid or albumin solutions are added to solutions of solargentum-Squibb. E. R. Squibb and Sons, New York (*Jour. A. M. A.*, Oct. 12, 1918, p. 1219).

Benzyl Alcohol. — Phenmethylol. — An aromatic alcohol occurring as an ester in tolu and other balsams, and produced synthetically. It is being used as a local anesthetic by injection and by application to mucous membrane. It is said to be practically nonirritant and nontoxic in the ordinary concentration and dosage. From 1 to 4 per cent. solutions in physiological sodium chloride solution are commonly used for injection anesthesia.

Phenmethylol.—A nonproprietary brand of benzyl alcohol complying with the tests and standards for benzyl alcohol. Hynson, Westcott and Dunning, Baltimore, Md.

Phenmethylol Ampules, 1 Per Cent.-H. W. and D.—Each ampule contains 5 Cc. of a sterile solution of phenmethylol H. W. and D. 1 Gm. in physiological sodium chloride solution 99 Gm. Hynson, Westcott and Dunning, Baltimore, Md.

Phenmethylol Ampules, 2 Per Cent.-H. W. and D.—Each ampule contains 5 Cc. of a 2 per cent. solution of phenmethylol H. W. and D. in physiological sodium chloride solution. Hynson, Westcott and Dunning, Baltimore, Md.

Phenmethylol Ampules, 4 Per Cent.-H. W. and D.—Each ampule contains 5 Cc. of a 4 per cent. solution of phenmethylol H. W. and D. physiological sodium chloride solution. Hynson, Westcott and Dunning, Baltimore, Md. (*Jour. A. M. A.*, Oct. 19, 1918, p. 1313).

Pneumococcus Antigen (Rosenow), Lilly. — A pneumococcus vaccine prepared by digesting a suspension of pneumococci until the bacteria are partially autolyzed. E. C. Rosenow believes that the protective power of this vaccine is greater than that of one prepared in the usual way. It is marketed in 5 Cc. vials, each Cc. containing 20 million partially autolyzed pneumococci. Eli Lilly and Co., Indianapolis (*Jour. A. M. A.*, Oct. 26, 1918, p. 1407).

PROPAGANDA FOR REFORM

Vaccines in Influenza.—After study of the evidence as to the value of vaccines against influenza, the Massachusetts committee recommended that the state encourage the distribution of the influenza vaccine intended for prophylactic use but in such manner as will secure scientific evidence of the possible value of the agent. It reported that the use of the vaccine should be considered experimental, and recommended that the state should neither furnish nor endorse any vaccine used for the treatment of influenza (*Jour. A. M. A.*, Oct. 19, 1918, p. 1317).

Phillips' Phospho-Muriate of Quinine Comp.—The Council on Pharmacy and Chemistry reports on the extravagance and the absurdity of the claims made for Phillips' Phospho-Muriate of Quinine Comp. by the Charles H. Phillips Chemical Co. It concludes that the preparation is a complex and irrational mixture exploited by means of unwarranted claims, and a survival of the days when fantastic formulas were gravely published, when eminent practitioners gave glowing testimonials for lithia waters that contained none, when no therapeutic claims were too preposterous and no theory too nonsensical to justify the use of all manner of claptrap mixtures. It is explained that Phillips' Wheat Phosphates was introduced when numerous ailments were supposed to be due to a deficiency of phosphorus in our food, and that it was converted into "Phospho-Muriate of Quinine Comp." by the addition of iron, quinin and strychnin (*Jour. A. M. A.*, Oct. 19, 1918, p. 1335).

Ill Advised Public Health Articles.—A "syndicated" newspaper article which discusses Spanish influenza advises that "aspirin may be administered to relieve headaches and body pains." No doubt it would be to the interest of public health and the public pocketbook were medicines taken only on the advice of physicians. The objections to the lay use of aspirin was thus stated by the Council on Pharmacy and Chemistry: The public does not know, as physicians do, that headaches are merely symptoms of other, sometimes very serious conditions, and that they are often the signal for the need of a thorough physical examination and diagnosis. It is true that they are often also the symptoms of very minor derangements, which will right themselves spontaneously; and that, in such cases, drugs like aspirin may give relief and may do no harm. The patient, however, is not educated to distinguish one class from the other, and therefore anything that tends to promote the indiscriminate use of such remedies as aspirin itself is not always harmless. Alarming idiosyncrasies are sufficiently common that the use of the first doses, at least, should require medical supervision (*Jour. A. M. A.*, Oct. 19, 1918, p. 1337).

Serums and Vaccines in Influenza.—Unfortunately, we as yet have no specific serum for the cure of influenza and no specific vaccine or vaccines for its prevention. The various treatments now being tried are experimental and their value will not be known until all the results are collected, which probably will not be until the epidemic is over. As to serum treatment, the only noteworthy new method so far is the injection in severe cases of influenzal pneumonia of the serum of patients who have recovered from such pneumonia (*Jour. A. M. A.*, Oct. 26, 1918, p. 1408).

Sulpherb.—"Sulpherb" or "Sulpherb Tablets" is one of the nostrums sold by the Blackburn Products Company of Dayton, Ohio. It is advertised by the "fake prescription" method. It is claimed that the tablets contain the extracts or concentrations of cascara, aloes, may apple, nux vomica, black cherry, capsicum, ginger, sarsaparilla, and also calcium sulphide, sulphur and cream of tartar. An examination made in the A. M. A. Chemical Laboratory indicated that "Sulpherb Tablets" are probably compounded from calcium sulphid, sulphur, cream of tartar, and vegetable extractives. Of the vegetable extractives claimed to be present, aloes was indicated and a trace of some alkaloid, the amount of which was too small to permit its identification (*Jour. A. M. A.*, Oct. 26, 1918, p. 1431).

CFFICIAL TRANSACTIONS

MINUTES OF THE PROCEEDINGS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

At the Sixty-Eighth Annual Session Held in Philadelphia, Sept. 23-26, 1918

MINUTES OF THE HOUSE OF DELEGATES

Monday Afternoon, Sept. 23, 1918

The House of Delegates met at the Bellevue-Stratford Hotel at 3 p. m., and was called to order by the President, Dr. Walter F. Donaldson, Pittsburgh.

The Committee on Credentials made a preliminary report, which was followed by roll call, showing forty-seven voting delegates present, and five non-voting.

The President stated that the next order of business was the presentation, correction and adoption of the minutes of the Sixty-Seventh Annual Session.

The Secretary stated that these minutes were printed in the November, 1917, issue of The Pennsylvania Medical Journal, beginning on page 123. He knew of no corrections, and moved that the minutes be adopted as printed. Motion was seconded by Dr. Edward B. Heckel and carried.

President Donaldson then delivered the following brief address to the House, which was referred to the Reference Committee on Reports of Officers and Committees.

Remarks of President Donaldson to the House of Delegates

In calling together this, the Sixty-Eighth Session of the House of Delegates of the Medical Society of the State of Pennsylvania, I realize how inadequately I take the place of the late Dr. Samuel G. Dixon, duly elected President of this Society. We fully appreciate the loss sustained to scientific and preventive medicine through the death of Dr. Dixon, one of our most distinguished members.

We must meet problems at this session such as have never before been presented—problems of maintenance with reduced membership and reduced income. We should, sooner or later, I believe, be especially keen to adopt and vigorously execute the recommendations previously made regarding our influence on legislation and public opinion. The advice given by last year's Committee on Public Policy and Legislation, that we employ for such work a full-time, well-qualified medical man, is worthy of consideration, and should prove a good investment.

Our country, in its vigorous warfare against autocracy, has created so great a corps of medical men and so widely declared its dependence on their number and efficiency, that we who remain at home must not only retain intact our medical organizations, with all their scientific and social benefits, but we must also advance the claims of our enlisted members for such reward and recognition as will, at least in a small way, be proportionate to their sacrifices and services.

We shall be called on, also, to prevent deeper inroads by socialists and paternalistic intriguers, who would take from our hands the profession of the physician, and place on our services a price in a manner that threatens no other profession or employment. This is the day of organization, and the recognition accorded the rights and demands of organized men with services to sell will be proportionate to the energy evolved in their presentation.

I trust that there will be no compromise with the Health Insurance legislation that will be introduced in our Legislature during this coming session. The Illinois State Medical Society led a good fight against it and brought about its defeat in their state last year, and we must do as much this year for ourselves, as well as for those hundreds of our members who, at this very time, offer their life's blood, if need be, in defense of our democratic individualism and against the autocratic paternalism typified by Germany and Austria.

The President announced the following Reference Committees:

Committee on Credentials, House of Delegates.—William Rowland Davies, Chairman, Scranton; Elmer L. Meyers, Wilkes-Barre; J. Newton Hunsberger, Norristown.

Reference Committee on Reports of Officers and Committees.—Wilmer Krusen, Chairman, Philadelphia; Harry W. Albertson, Scranton; John M. Thorne, Pittsburgh.

Reference Committee on Scientific Business.—John W. Ellenberger, Chairman, Harrisburg; Adolph Koenig, Pittsburgh; Alexander Armstrong, White Haven.

Reference Committee on New Business.—Frank C. Hammond, Chairman, Philadelphia; J. Paul Roebuck, Lancaster; William T. Williams, Mount Carmel.

The Secretary, in presenting his annual report, said that lest there might be some misunderstanding, he desired to state to the House that he could not accept the office for another year.

It was moved that the Secretary's report as printed in the September, 1918, issue of The Journal be accepted and referred to the Reference Committee on Reports of Officers and Committees.

The Treasurer presented his report, and on motion the reading of it was dispensed with and the report as printed in the September, 1918, issue of The Journal was referred to the Board of Trustees for auditing.

The Secretary presented the following report of the Board of Trustees, which was referred to the Reference Commitee on Reports of Officers and Committees.

Report of the Board of Trustees

To the President and House of Delegates:

Your Board of Trustees begs to submit the following report:

1. The Board reorganized at Pittsburgh, Sept. 26, 1917, by the election of H. W. Gass, Sunbury, as Chairman, and Donald Guthrie, Sayre, as Clerk. No meetings of the board have been held since the Pittsburgh Session.

2. The sickness of President Dixon deprived the Society of his valuable services and somewhat complicated the work of the Society. Up until the time of Dr. Dixon's death on Feb. 26, 1918, the chairman of the board, Dr. Gass, signed vouchers for the payment of necessary bills. At that time, Dr. Walter F. Donaldson, Pittsburgh, the First Vice President, suc-

ceeded to the presidency, and has efficiently performed the duties of the office. He has visited officially many of the county societies in the state.

3. The printed report of the Secretary shows a satisfactory condition of the Society and a review of the work of the Medical Defense Fund during the year. The printed report of the Treasurer shows the financial condition of the Society on Aug. 31, 1918. All bills excepting for two councilors, for the programs and reports for the Philadelphia Session, and for some Medical Defense cases, are paid up to date.

4. A vote taken by mail authorized Treasurer Wagoner to purchase $4,000 worth of Third Liberty Loan bonds for the Medical Benevolence Fund. Dr. Wagoner purchased $4,000 worth of bonds then on the market, and was able, with the amount of money on hand to purchase $4,200 worth of bonds, costing $4,069.34.

5. The Secretary, in his report, referred to the War Committee, and it is understood that the President in his address will recommend the creation of a War Commission. While the establishment of extra committees is to be discouraged, unexpected conditions are being and will be created by the war; and it is recommended that a War Committee be authorized, and that its duties and powers be defined.

It is gratifying to report for the fifth year that no business has required the attention of the board in its capacity of the Judicial Council.

The board may make supplemental reports later.

Respectfully submitted for the Trustees,
C. L. Stevens, Secretary.

The President called for reports of Councilors.

The Secretary stated that the reports of all but two Councilors were printed in the September Journal.

The Assistant Secretary read the reports of Dr. Hartman, Councilor of the Second District, and Dr. Guthrie, Council of the Sixth District, as follows:

Report of the Councilor for the Second District

To the President and House of Delegates:

It is a source of regret that, owing to the increased work imposed on me by reason of men entering military service as well as my connection with several war activities, it has been impossible for me to visit personally the several county societies comprising the Second Councilor District, but from reports received from various sources I find conditions throughout the district to be quite satisfactory, with a good percentage of the men making application for commissions in both the Army and Navy. I had, however, the pleasure of attending the meeting of the Fourth Censorial District at Hershey, August 30. Dinner was served at the Hershey Café after which a business meeting was held in the Central theater. The meeting was largely attended by the men from Dauphin, Lebanon and Lancaster Counties, especially so since so large a number of the active practitioners in this district have responded to the government's call for physicians. The reports of the secretaries of the respective societies showed a most gratifying condition of affairs.

During the year I have had two applications for assistance from the Medical Defense Fund and one unsettled case referred to me by my predecessor, Dr. T. B. Appel. The latter case is a retrial of a suit previously reported and which, by agreement of the attorneys concerned and with the approval of the court, will not be called for second trial until after the war, owing to the fact that all the prominent witnesses involved are at present in military service, either in this country or in France. Of the two new applications, in the one case suit was entered October, 1917, but up to the present time the attorney for the plaintiff has not filed his bill of particulars and probably never will. This case is absolutely without merit and the defendant, although only entitled to the support of the State Society by a few days owing to his tardiness in paying dues, will have the unanimous support of his county society. In the second case, the physician, owing to his delay in making application for assistance, was not entitled to the support of the Society, but following his explanation for this delay and a mail vote of the Trustees support was given and the Society defended him. The trial resulted in a verdict for the plaintiff. The trial judge refused to grant a new trial and the Society's attorney is now perfecting an appeal to the supreme court. The regrettable feature incident to the trial was the appearance of members of the defendant's society as witnesses for the plaintiff. The effect of their testimony on the verdict is only problematic, but, nevertheless, the occurrence was sufficient reason for a plea for society harmony and unity on my part at the meeting of the Fourth Censorial District.

Respectfully submitted,
Frank G. Hartman.

Report of Dr. Donald Guthrie, Sayre, Councilor for the Sixth District

To the President and House of Delegates:

Your Councilor of the Sixth District visited Tioga, Wyoming, Union, Sullivan, and Bradford County Societies during the past year. He has been in correspondence with the secretaries of Clinton, Lycoming and Susquehanna County Societies. He was prevented from attending the meeting of the Lycoming County Society, due to a severe thunderstorm, which held him up *en route*. The condition of the societies, as a whole, in the district, is excellent. There have been no internal disturbances of any kind, and no suit for malpractice; and the year has been spent in progressive work.

Sullivan County Society, at its meeting in Dushore, May 31, reported that all members had paid their dues, and the society was in normal condition. One of its members is in active service.

Wyoming County Society met in Tunkhannock, July 31. The society consists of fifteen members, three of whom are in the service. The condition of the society financially is good. There has been no litigation or unpleasantness of any kind arising during the past year.

Tioga County Society was visited August 2. The society consists of thirty-four members, four of whom are in active service. Three others have applications in for service. Four men of the county, non-members of the society, are also in service. There has been one threatened suit for malpractice in the society during the past year, that has never come to trial.

Union County Society was visited August 15. There are eighteen members, with one in active service. All members have paid their dues, and the society is in good condition.

The condition of Bradford County Society is excellent. Six members are in active service, and three others have applications in for the army.

Clinton County Society has twenty-five members, six of whom are in service. One is awaiting orders. The secretary writes that there is the same harmony which has always existed.

Lycoming County Society writes that all the old members have paid their dues. The meetings were well attended during the past year, and there has been no disturbance in the society. The membership at this time is 102, fourteen of whom are in service.

I have been unable to get a report of the Susquehanna County Society, due to the fact that the secretary has been away on a long vacation.

Wyoming, Clinton, Lycoming, and Bradford County Societies have voted to remit the dues of soldier members for the coming year.

Your Councilor talked on organized medicine, war, Medical Benevolence Fund, Medical Defense Fund, and urged the societies to look carefully into the matter of compulsory health insurance. The advisability of having a permanent man at Harrisburg to represent the State Society in legislative matters was also talked over; and all societies expressed a desire to have such a man appointed.

On motion of the Secretary, duly seconded, all of these reports printed in The Journal and the two read were referred to the Reference Committee on Reports of Officers and Committees.

The President called for the report of the Committee on Public Policy and Legislation, and on motion of the Secretary, duly seconded, this report, which was printed in the September, 1918, issue of The Journal, together with the subsidiary reports, was referred to the Reference Committee on Reports of Officers and Committees.

Dr. William Duffield Robinson, Philadelphia, Chairman of the Advisory Committee to the Committee on Public Policy and Legislation, presented the following report, which was referred to the Reference Committee on Reports of Officers and Committees:

The Advisory Committee of the Committee on Public Policy and Legislation reports that it has completed the work assigned to it. The officials of every county medical society have been communicated with, and have appointed Committees on Public Policy and Legislation, and reported the personnel of these committees.

Respectfully submitted,
William Duffield Robinson, Chairman.

Dr. Edward B. Heckel, Pittsburgh, presented the following report of the Committee on Revision of the Constitution and By-Laws, and moved that it be referred to the Reference Committee on Reports of Officers and Committees. Seconded and carried.

Report of the Committee on Revision of the Constitution and By-Laws

Your Committee on Revision of the Constitution and By-Laws, appointed at the last session to act in conjunction with the standing Committee on Society Comity and Policy, begs to report after careful consideration of the subject from all angles, that it is not wise nor expedient at this time to offer a definite revision as the ideas which prompted the creation of this committee would require an increased assessment which we feel it is not wise now to impose on the members: We, therefore, recommend that this committee be continued with the following instructions: That it be authorized to incorporate in the revision for consideration before this House of Delegates at the close of the war, first, the creation of a Speaker of the House of Delegates to be elected by the House of Delegates. The candidate for speaker may not be a member of the House of Delegates. Second, the creation of the office of Executive Secretary, who shall be a full time paid official.

The functions of this Executive Secretary shall be, first: He shall have general supervision of the business of this Society, acting, at all times, however, under the direction of the House of Delegates and during the interim of sessions under the direction of the Board of Trustees. He shall have charge and see that the minutes are properly recorded and preserved in an accessible form; he shall act as Editor of the official Journal of this Society and its general business manager; he shall act as Manager of the Annual Sessions and have general charge of the arrangements; he shall visit and keep in touch with the various component societies in order to learn their needs and promote their welfare; he shall keep in touch with all legislative matters of interest to the profession and the general public health.

We further recommend the establishment of a central office for our Society, where all records may be kept and from which all business may be transacted. We feel that this office should be in one of the larger cities.

In order to carry out this scheme an increase in the annual assessment will be necessary, an increase of perhaps $2 *per capita.*

It is on account of this increase that your committee has decided to make the above recommendations in a general way only, so that our members may become familiar with the real needs of our Society and give them serious thought and consideration for final action at the termination of the present war.

Walter F. Donaldson,
William H. Cameron,
Edward B. Heckel, Chairman.

The President called for the report of the Committee on Health and Public Instruction, including the Commission on Cancer.

On motion of the Secretary, duly seconded, this report as printed in the September Journal was referred to the Reference Committee on Reports of Officers and Committees.

The Assistant Secretary read the following report of the Committee on Medical Benevolence, which, on motion of Dr. Edward B. Heckel, Pittsburgh, was referred to the Board of Trustees for auditing.

Report of the Committee on Medical Benevolence

To the President and House of Delegates:

The Committee on Medical Benevolence begs leave to submit the following report for the twelve months, Aug. 31, 1917, to Aug. 31, 1918:

There are three members of the Society who have been assisted pecuniarily by the committee during the year. We have endeavored to keep informed as to the condition of these beneficiaries and believe they are all deserving. Owing to the increased cost of living these members have been paid $50 a quarter (instead of $25 as heretofore) during the last half of the year. As shown by the treasurer's report which is appended the committee has expended $500 on account of benevolence, leaving a balance of $436.40 in the hands of the treasurer of the committee.

Respectfully submitted,
William T. Sharpless, Chairman.

Receipts

Balance in bank as of Sept. 1, 1917	$562.87	
Received from Treasurer Wagoner, Aug. 23, 1918	373.53	
		$936.40

Disbursements

Sept. 10, 1917	$25.00	
Sept. 20, 1917	25.00	
Oct. 15, 1917	25.00	
Dec. 10, 1917	25.00	
Dec. 10, 1917	25.00	
Dec. 12, 1917	25.00	
March 7, 1918	25.00	
March 7, 1918	25.00	
May 21, 1918	50.00	
May 21, 1918	50.00	
May 21, 1918	50.00	
Aug. 6, 1918	50.00	
Aug. 6, 1918	50.00	
Aug. 6, 1918	50.00	
		$500.00
Balance in bank Sept. 1, 1918		$436.40

Respectfully submitted,
Edward B. Heckel, Treasurer.

Dr. George A. Knowles, Chairman, reported that the local Committee on Arrangements had proceeded along the usual lines, and were doing the best they could to make the arrangements for the meeting complete. On motion the report was accepted.

On motion of the Secretary, duly seconded, the report of the Committee on Archives as printed in the September Journal was referred to the Reference Committee on Reports of Officers and Committees.

Dr. Frank C. Hammond presented a verbal report as Chairman of the War Committee. On behalf of the War Committee, he expressed his grateful appreciation of the work the various county medical society committees had done.

STATUS OF THE MEDICAL PROFESSION OF PENNSYLVANIA, SEPT. 1, 1918

County	Percentage Recommended for Commissions	Number of Physicians Recommended	Number yet available for Service	Number unavailable for Service	Number* in the County
Pennsylvania	26.4	2,872	4,902	3,098	10,872
Adams	28.3	13	18	15	46
Allegheny	37.5	551	708	209	1,468
Armstrong	23.4	18	27	32	77
Beaver	21.9	25	49	40	114
Bedford	31.8	14	17	13	44
Berks	26.4	65	113	68	246
Blair	26.1	37	59	46	142
Bradford	23.5	19	29	33	81
Bucks	27.8	27	27	43	97
Butler	19.8	18	39	34	91
Cambria	30.1	53	84	39	176
Cameron	....	..	3	3	6
Carbon	16.3	7	20	16	43
Center	25.9	15	12	31	58
Chester	31.0	40	47	42	129
Clarion	21.3	10	23	14	47
Clearfield	22.3	21	39	34	94
Clinton	38.2	13	6	15	34
Columbia	25.5	13	22	16	51
Crawford	24.4	22	25	43	90
Cumberland	32.7	16	16	17	49
Dauphin	19.7	48	104	92	244
Delaware	29.7	58	84	53	195
Elk	25.0	7	12	9	28
Erie	26.2	49	53	85	187
Fayette	32.5	51	67	39	157
Forest	....	..	5	2	7
Franklin	30.3	23	34	19	76
Fulton	12.5	1	5	2	8
Greene	13.9	6	24	13	43
Huntingdon	29.2	14	16	18	48
Indiana	31.3	25	26	29	80
Jefferson	27.5	19	33	17	69
Juniata	11.1	2	6	10	18
Lancaster	21.5	45	82	82	209
Lackawanna	29.1	86	120	90	296
Lawrence	20.8	21	51	29	101
Lebanon	20.2	17	32	35	84
Lehigh	13.8	22	95	43	160
Luzerne	38.4	118	102	87	307
Lycoming	20.3	25	54	44	123
McKean	13.2	9	29	30	68
Mercer	25.0	25	37	38	100
Mifflin	22.2	8	9	19	36
Montgomery	23.6	61	135	63	259
Montour	27.8	5	9	4	18
Monroe	33.3	10	8	12	30
Northampton	15.5	30	91	72	193
Northumberland	25.2	27	35	45	107
Perry	18.2	4	9	9	22
Philadelphia	22.6	713	1,681	757	3,151
Pike	33.3	3	3	3	9
Potter	14.8	4	12	11	27
Schuylkill	35.9	70	71	54	195
Snyder	21.1	4	5	10	19
Somerset	18.1	13	40	19	72
Sullivan	42.9	6	6	2	14
Susquehanna	14.3	5	17	13	35
Tioga	29.8	17	18	22	57
Union	13.0	3	9	11	23
Venango	16.0	12	39	24	75
Warren	23.2	13	18	25	56
Washington	29.3	60	77	68	205
Wayne	22.7	5	13	4	22
Westmoreland	31.7	84	80	101	265
Wyoming	26.3	5	8	6	19
York	24.4	42	55	75	172

*Means the number of physicians in the county before war was declared.

In regard to the status of Pennsylvania, previous to the time war was declared there were 10,872 physicians in the state. According to a statistical study, there were 3,098 unavailable for service. There were 4,902 not yet available for service; 2,872 had been recommended for commissions, representing a percentage of 26.4 up to September 1. The committee had been unable to make any statistical study until October 1. According to the record received, the committee was only able to make a statistical study from month to month.

Much good work had been done in the state in enrolling men in the Medical Corps, and Volunteer Medical Service Corps. There were only two counties in the state, Cameron County (with six physicians) and Forest County (with seven physicians) not represented in the the military service. Pike County, with nine physicians, had three in the military service. With the exception of the two counties mentioned, every county in the state was represented in the Medical Corps.

The committee had received a great many inquiries in regard to the Volunteer Medical Service Corps. Members desiring to join the Volunteer Medical Service Corps should fill out the new blank sent them and send it to the county committee, to the state committee, or to Washington, D. C. Those who had not filled out the first application blank that was issued were requested to fill out the second, or new blank.

The report of this committee was referred to the Reference Committee on Reports of Officers and Committees.

The Secretary stated that, as a matter of general interest, after communicating with the president of the Philadelphia County Medical Society and the chairman of the Committee on Arrangements, it was decided to invite all medical men in the camps near Philadelphia to attend this meeting, and to show to what extent this invitation was appreciated, he read letters from different men stating that they would like to avail themselves of the invitation.

The Secretary said he had received a communication from the Connecticut State Medical Society designating Dr. J. W. Felty of Hartford as the regularly elected delegate to this Society. The Pennsylvania Pharmaceutical Association sent as delegates Dr. F. E. Stewart, J. A. Dean and Otto Austerlund.

The Secretary stated that he had received a letter from the Secretary of the Delaware State Medical Society acknowledging the receipt of a letter which he had sent inviting the members of the Delaware State Medical Society to attend this meeting, and in his letter the secretary of the Delaware State Medical Society expressed the hope that some of their members would be able to attend, and further expressed the hope that the Medical Society of the State of Pennsylvania would send delegates to their next meeting in October.

Similar letters were sent to the camps in Pennsylvania, Maryland and New Jersey.

Dr. John M. Quigley, under the head of "New Business," moved that the President appoint a Committee on Resolutions regarding the death of Dr. Dixon to report at a subsequent meeting of the House of Delegates. Motion seconded by Dr. Edward B. Heckel and carried.

On motion of Dr. Heckel, duly seconded, the House of Delegates adjourned to meet at 8:30 p. m.

Monday Evening, Sept. 23, 1918

The House of Delegates reconvened at 8:30 p. m., and was called to order by President Donaldson.

On motion of Dr. John D. McLean, Philadelphia, duly seconded, the minutes of the previous meeting were adopted without being read.

On motion, duly seconded, the calling of the roll was dispensed with.

The President appointed Drs. B. Franklin Royer, Harrisburg; Adolph Koenig, Pittsburgh; W. L. Estes, South Bethlehem, and J. B. F. Wyant, Kittanning, as a committee to draft appropriate resolutions on the death of Dr. Dixon.

Dr. Harry W. Albertson, Scranton, presented the following report of the Reference Committee on Reports of Officers and Committees, which on motion was accepted and ordered filed:

Report of the Reference Committee on Reports of Officers and Committees

Your Reference Committee on Reports of Officers and Committees commend the report of the Secretary and Treasurer.

We have read with much interest the individual reports of each Councilor, and we feel that the State Society is to be congratulated on the self-sacrifice and patriotism which is indicated in these various reports.

The absence of internal dissentions in the component county societies and the small number of cases of litigation show that the organization of the State Society is becoming more practical and valuable, and we feel that the unification of the medical profession deters the bringing of suits for alleged malpractice.

In view of the fact that the Legislature of the state of Pennsylvania will meet in the year 1919, we urge the continuance of a strong Committee on Public Policy and Legislation, and although a number of subsidiary committees have been unable to do much work during the past year, we urge the reappointment of these subsidiary committees, and that the Committee on Health and Public Instruction shall be continued and their work amplified as a necessary war measure, as we feel that the protection of the civil population is just as essential as a well-organized military organization.

In reviewing the Report of the Trustees, we suggest that a committee of the House of Delegates be appointed to draft appropriate resolutions on the death of the late President, Dr. Samuel G. Dixon, who died during his term in office.

No greater evidence of the patriotism of the Medical Society of the State of Pennsylvania need be presented than the report of the War Committee, Dr. Frank C. Hammond, Chairman, showing that 26.4 per cent. of the medical profession of this state have been recommended for commissions in the medical service of the Army.

Respectfully submitted,
Wilmer Krusen, Chairman,
John M. Thorne,
Harry W. Albertson.

A free and informal discussion took place in regard to Workmen's Compensation, which was participated in by Drs. Fisher, Bliss, McAlister, McLean, Donaldson, Wyant, Mitchell, Davis, Estes, Moyer, Wagoner, Quigley, and others, after which Dr. Harry W. Mitchell, Warren County, offered the following:

Resolved, That a committee from the House of Delegates be appointed by the Chair to draft resolutions concerning proposed changes in the Workmen's Compensation Act by the next Legislature, and that all members of the Medical Society of the State of Pennsylvania be supplied with copies of these proposed changes and requested to explain their need to their respective senators and representatives, to the end that united support be secured from the medical profession. Seconded.

Dr. Harry W. Albertson, Scranton, moved to amend that this matter be referred to the Committee on Public Policy and Legislation; that this committee make a tentative report on the recommendations to the Legislature, and that the committee report to the House of Delegates before the close of the present session. Seconded.

Dr. Adolph Koenig, Pittsburgh, moved as a substitute that the Committee on Public Policy and Legislation be requested to formulate needful changes in the Compensation Law and submit the same for approval or disapproval to the House of Delegates before it finally adjourns.

The substitute was seconded, accepted, and carried.

On motion of Dr. Free, the House of Delegates adjourned, to meet at 9 a. m., Tuesday, September 24.

Tuesday Morning, Sept. 24, 1918

The House of Delegates met at 9:25 a. m., and was called to order by President Donaldson, after which Dr. Edward B. Heckel was called upon to preside.

The Committee on Credentials presented a supplementary report of eleven additional delegates having registered, and on motion the report was approved.

On motion, duly seconded, the calling of the roll was dispensed with.

The Secretary read the following report of the Committee on Society Comity and Policy, which was referred to the Reference Committee on Reports of Officers and Committees.

Report of the Committee on Society Comity and Policy

The matters referred to the Committee on Society Comity and Policy by the House of Delegates on Sept. 24, 1917, were, by subsequent action of the House on September 26, referred to a special Committee on Revision of the entire Constitution and By-Laws to work in conjunction with the Committee on Society Comity and Policy. Owing to the unsettled condition of the country, the special committee deemed it advisable to defer action and did not present their report in time for the matter to be considered by this committee in the general way contemplated by the House of Delegates, and we therefore recommend that the special committee be continued with instruction to report to the Committee on Society Comity and Policy at least two months before the session of 1919 of the State Society, and we further recommend that action on the amendments submitted by Drs. Wray and Jump be deferred till 1919 in order that they may be considered as part of the general revision of the Constitution and By-Laws.

Lewis H. Taylor,
W. L. Estes,
C. L. Stevens.

On motion of the Secretary the House of Delegates adjourned to meet at 9 a. m., on Wednesday, September 25.

Walter F. Donaldson, President,
C. L. Stevens, Secretary.

Wednesday Morning, Sept. 25, 1918

The House of Delegates met at 9:25 a. m., and was called to order by the President, Dr. Frederick L. Van Sickle, Olyphant.

The minutes of the previous meeting were read and approved.

On motion of Dr. Edward B. Heckel, Pittsburgh, duly seconded, the election of officers was postponed until 9:40 a. m.

The Committee on Credentials reported that seventy-six delegates had registered and were entitled to vote.

The following communication from the Secretary was presented:

To the President and Members of the House of Delegates:

Having announced my resignation when presenting my report to the House of Delegates, and having served the Society for twenty-one years as Secretary, I do not feel that I can longer continue as Secretary. C. L. Stevens.

Dr. Edward B. Heckel, Pittsburgh, made the following motion: I move that we accept the resignation of Dr. Stevens as Secretary, and that as a testimonial of our appreciation for everything he has done for the Society and for the sacrifices he has made during his term of office of twenty-one years, the Board of Trustees be requested to award him a purse of $2,000 in recognition of his valuable services.

This motion was heartily seconded by Dr. Wilmer Krusen, Philadelphia; Dr. J. Wesley Ellenberger, Harrisburg; Dr. W. L. Estes, South Bethlehem, and by Dr. Frank G. Hartman, Lancaster, representing the Board of Trustees, and was unanimously carried.

Dr. Adolph Koenig, Pittsburgh, presented the following report in regard to the death of Dr. Samuel G. Dixon:

Your Committee appointed to prepare a suitable memorial resolution on the death of our President, Samuel Gibson Dixon, M.D., LL.D., Sc.D., begs leave to make the following report:

Samuel Gibson Dixon descended from an old Quaker stock; was born in Philadelphia, March 23, 1851; educated at Mantua Military Academy; graduated from the Mercantile College of Philadelphia; member of the Bar of the city of Philadelphia; graduated from the University of Pennsylvania Medical School; professor of hygiene in the Medical and Scientific Departments of that great university; professor of sanitary engineering in the same university; pioneer research worker in bacteriology; the first to describe the branched form of the tubercle bacillus, which he did the same year he took his medical degree. He was the first research worker to produce immunity to the tubercle bacillus (his paper was published in America six months ahead of Koch's early studies in Germany). He was professor of bacteriology and microscopic technology in the Academy of Natural Sciences; curator of the museum in the same academy; president of the Academy of Natural Sciences; member of the Board of Public Education of the city of Philadelphia (he was chairman of the Committee of Hygiene during most of his services therein); commissioner of health of the Commonwealth of Pennsylvania from 1905 to the day of his death, Feb. 27, 1918; President of the Medical Society of the State of Pennsylvania.

A man of legal training and of big business training, scientist and doctor of medicine, be came to his greatest lifework, the organization of the State Department of Health. He was a wonderfully versatile man, with a fixed reputation and a scientific public health foundation such as no other medical man in the commonwealth possessed.

Twelve years prior to his selection as the first Commissioner of Health of Pennsylvania, in an address in hygiene before this Medical Society in annual session at Williamsport in 1893, Dr. Dixon outlined ideal precautions for protection against tuberculosis, forecasted the work of a great State Health Department, including industrial and dairy hygiene, and even suggested the need of a cabinet minister of health who, he said, would be as useful to the nation as a cabinet minister of agriculture.

Dr. Dixon's contributions to science are numerous and cover many lines of research and public health endeavor. His active interest in the Medical Society of the State of Pennsylvania extends over a period of many years. In 1893, in the Williamsport session, he gave the Annual Address in Hygiene. In 1894 at the Scranton session he contributed a paper on hygiene before the Medical Section at the general meeting. In 1906 at the Bedford Springs session he delivered the "Oration in Hygiene"; in 1909, Philadelphia session, he presented a paper on the "Prevalence of Cancer"; in 1910, Pittsburgh session, a paper on "Some Considerations on Infant Mortality"; in 1911, Harrisburg session, a paper on "Pennsylvania's Work in Poliomyelitis"; in 1912, Scranton session, a paper on "Medical Inspection of Schools in the Fourth Class Districts in Pennsylvania"; in 1915, Philadelphia session, a paper on "Quarantine of the Home as Practiced by the Department of Health in Pennsylvania"; in 1916, Scranton session, a paper on "Typhoid Fever." In 1917 he was ill and unable to read his Presidential Address, which was presented by Dr. McAlister.

It was altogether appropriate that one who for twelve years had served the commonwealth as commissioner of health and who had built up an organization the peer of any public health organization in America, should receive the stamp of approval from this society, of election to the highest position within its gift and at the same time this Society should honor itself by electing him its President.

Dr. Dixon has gone. This Society has suffered a tremendous loss, but the influence he has left on the medical profession of Pennsylvania, the medical profession of the United States and of the entire world, will live throughout time. He truly was a great man and in the efforts to serve his fellowman, laid down his life. His great work as commissioner of health will be his best memorial. In the language of an editorial written at the time of his death by one of Philadelphia's great newspapers, "Doubtless he will rise in bronze, that through the years they who owe to him the peace and plenty born of health may behold their benefactor. But rose-cheeked babies, vigorous children and men and women strengthened to bear life's burdens and overcome its handicaps, and, better still, urged on to further heights of health by the ideal he reared, will be his true memorial. No man could ask, no people give, a better monument."

Adolph Koenig,
William L. Estes,
Jay B. F. Wyant,
B. Franklin Royer.

Dr. Edward B. Heckel, Pittsburgh, moved that the report be received and spread on the minutes; that it be published in the Pennsylvania Medical Journal, and that a copy be sent to the family of Dr. Dixon. Seconded and carried.

Dr. J. M. Baldy, Philadelphia, presented the following preambles and resolution, which were referred to the Reference Committee on New Business:

Whereas, An effort is being organized to change the law governing the registration of nurses and the accrediting of training schools in the State of Pennsylvania, whereby the practitioners of medicine will be omitted from the Board; and

Whereas, All pupil nurses are being trained to execute the orders of the doctor, and training schools could not exist without this supervision and instruction; therefore, be it

Resolved, That the Medical Society of the State of Pennsylvania, at its meeting, Sept. 25, 1918, would strongly urge that the government of this Commonwealth make no change in the law which would alter the proportion of doctors and nurses on the State Board for Registration of Nurses.

The time having arrived for the election of officers, the President appointed as tellers Dr. J. M. Thorne, Pittsburgh; Dr. Frederick J. Bishop, Scranton, and the Assistant Secretary appointed Dr. William S. Wray, Philadelphia.

Before proceeding with the election, President Van Sickle said:

Members of the House of Delegates: I want you to appreciate the feeling I have on being elected President to succeed Dr. Dixon, and while unfortunate events have changed plans, so that Dr. Dixon's term could not be carried out as he wished on account of death, our good friend from Pittsburgh, Dr. Donaldson, has acted in his stead. I feel that I owe to the House of Delegates, who elevated me to this position, a statement of the fact that while I do not deserve the honor, I have during the past year appreciated more than ever what it means to be an officer and President of the Medical Society of the State of Pennsylvania.

As we grow older, these honors come to us with greater appreciation than they did when we were young men, and I thank you for the great honor you have conferred on me.

I realize what it means to the officers who shall govern this body in the years to come. Often we are governed more by sentiment than a real appreciation of what it means when we elect officers to conduct business for us in organizations of this kind. Frequently sentiment will put men in office who are ill fitted, and who will not sacrifice the time and energy for the proper conduct of the business which we have to do. Therefore, I beseech of you, in the election of officers this trying year, when we know not what may happen, that the officers you choose shall be men who feel the call of duty for the Medical Society of the State of Pennsylvania.

The roll was called, after which the House of Delegates proceeded with the election of officers.

On motion of Dr. W. L. Estes, South Bethlehem, seconded by Dr. Edward B. Heckel, Pittsburgh, Dr. Cyrus Lee Stevens, Athens, was placed in nomination for President-Elect, and on motion of Dr. J. M. Baldy, Philadelphia, duly seconded, the nominations were closed.

On motion of Dr. Edward B. Heckel that the Assistant Secretary cast the ballot of the House of Delegates for Dr. Stevens for President-Elect, duly seconded, the ballot was cast and Dr. Stevens declared duly elected.

On motion of Dr. Heckel that a committee of one be appointed by the President to convey the news of what had taken place this morning, seconded by Dr. Baldy, the President appointed Dr. W. L. Estes, South Bethlehem, to convey this message to Dr. Stevens.

The following officers were nominated and duly elected:

First Vice President, Dr. William Duffield Robinson, Philadelphia; Second Vice President, Dr. J. N. Sprowls, Claysville; Third Vice-President, Dr. Julius H. Conroe, York; Fourth Vice President, Dr. Wesley F. Kunkle, Williamsport; Secretary, Dr. Walter F. Donaldson, Pittsburgh; Assistant Secretary, Dr. C. B. Longenecker, Philadelphia; Treasurer, Dr. George W. Wagoner, Johnstown.

The Assistant Secretary read the resignation of Dr. Horatio W. Gass, Sunbury, as Trustee and Councilor, and on motion of Dr. Edward B. Heckel, Pittsburgh, duly seconded, the resignation was accepted. Dr. H. C. Frontz, Huntingdon, was elected Trustee and Councilor of the Fourth District, to fill the unexpired term of Dr. Gass.

Dr. H. W. Mitchell, Warren, was elected Trustee of the Eighth District for three years.

Dr. Spencer M. Free, Dubois, was elected Trustee of the Fifth District for the term of three years.

Dr. Irwin J. Moyer, Pittsburgh, was elected Trustee to succeed himself for the term of three years.

The following were elected delegates, alternates designate, and alternates at large to the American Medical Association: Delegates: Drs. Edward B. Heckel, Pittsburgh; John D. McLean, Philadelphia; David N. Dennis, Erie; and J. M. Baldy, Philadelphia. Alternates designate: Drs. Samuel J. Waterworth, Clearfield; George W. Wagoner, Johnstown; Frank G. Hartman, Lancaster; and Lewis H. Taylor, Wilkes-Barre. Alternates at Large: Drs. W. H. Mayer, Pittsburgh; Leslie M. Kauffman, Kauffman; William D. Martin, Dunns Station, R. D. 2; William J. Wilkinson, Sellersville.

Dr. Edward B. Heckel, Pittsburgh, moved that vacancies occurring in the District Censors be referred to the various county societies by the Secretary and be empowered to cast the vote of the House of Delegates. Seconded and carried.

Dr. E. L. Meyers, Wilkes-Barre, extended an invitation for the Society to hold its 1919 Session in Wilkes-Barre.

Dr. John B. McAlister, Harrisburg, extended an invitation on behalf of the medical profession of Dauphin County, to hold the next meeting at Harrisburg. Dr. Edward B. Heckel, Pittsburgh, seconded the invitation to meet at Harrisburg. Dr. Meyers then withdrew Wilkes-Barre in favor of Harrisburg. On motion the invitation of the Dauphin County Medical Society to meet in Harrisburg in 1919 was accepted.

Dr. William Duffield Robinson, Philadelphia, called attention to the luncheon to be given the members of the House and guests at Kugler's at 12:30.

Dr. John M. Thorne, Pittsburgh, presented the report of the Reference Committee on Reports of Officers and Committees, as follows:

Report of the Reference Committee on Reports of Officers and Committees

We have considered the Report of the Committee on Revision of the Constitution and By-Laws, and recommend the creation of a Speaker of the House of Delegates, to be elected by the House of Delegates, as suggested.

We also recommend the establishment of the office of an Executive Secretary, who shall be a full-time medical man on adequate salary, with expenses paid; his duties to be more fully specified by the Board of Trustees; this appointment not to be made until after the cessation of the war; the details of the duties of such officer to be submitted by the Board of Trustees at our next annual meeting.

We congratulate the Society on the comprehensive address of the President, and commend his position on the important questions before the medical profession at this time.

Dr. J. M. Baldy, Philadelphia, moved that the report be received. Seconded and carried.

The report was discussed by Drs. Baldy, Heckel, Albright, Meyers, Estes, Davis, and McAlister, after which Dr. Baldy moved that it is the sense of the House of Delegates that the office of an Executive Secretary be created, and that this committee be bindingly instructed to bring in the details for final action at the next annual meeting. Seconded by Dr. Albertson and carried.

On motion of Dr. W. L. Estes, South Bethlehem, seconded by Dr. Edward B. Heckel, the Report of the Reference Committee on Reports of Officers and Committees was adopted as corrected.

Dr. Frank C. Hammond, Philadelphia, Chairman, presented the Report of the Reference Committee on New Business regarding the resolutions offered by Dr. Baldy, as follows:

The Reference Committee on New Business heartily endorses the resolutions introduced by Dr. Baldy in regard to the proposed changes in the law governing the registration of nurses and the accrediting of training schools in the state of Pennsylvania.

On motion of Dr. W. L. Estes, South Bethlehem, duly seconded, the report was adopted.

Dr. George W. Wagoner, Johnstown, Treasurer, called the attention of the House of Delegates to the probable financial condition of the association during the next year, and suggested that an amendment to the By-Laws be presented at this meeting, authorizing the Board of Trustees to fix the assessment for the Defense Fund at 20 cents per year, and the Benevolence Fund at 5 cents per year, and that this amendment be introduced now and presented tomorrow for ratification. Then the Society would be assured of sufficient funds during the coming year for its proper maintenance.

Dr. W. L. Estes, South Bethlehem, moved that the remarks of the Treasurer be transmitted to the Board of Trustees, with the suggestion from the House of Delegates that they consider the matter of adding to the annual dues and try to calculate, if possible, the probable increase, and report, after investigation and thought, their recommendations to the House of

Delegates at the next meeting. Seconded by Dr. Heckel and carried.

Dr. Edward B. Heckel, Pittsburgh, moved that the Secretary be instructed to start a propaganda through the secretaries of the various county medical societies, requesting them to see that the dues for the current year are paid by those men who remain at home, in order to keep the absent ones in good standing with the State Society. Seconded by Dr. Baldy and carried.

Dr. John B. McAlister, Harrisburg, moved that the President appoint either a new committeee or the existing Committee on Public Policy and Legislation to meet with the Health Commission in any investigations or inquiries that this commission may make. Seconded and carried.

Dr. J. Wesley Ellenberger, Harrisburg, offered the following resolutions, which were referred to the Reference Committee on New Business:

> Through the efforts of the Bureau of Medical Education and Licensure, in cooperation with the Executive Officers of the State Board of Charities and the State Department of Health, an active campaign has been conducted for the enlargement and further opening of hospital facilities for the treatment of persons afflicted with venereal diseases; therefore, be it
>
> *Resolved,* That the House of Delegates of the Medical Society of the State of Pennsylvania commend the splendid work of these three departments, and that we especially commend the efforts of the Bureau of Medical Education and Licensure in this direction.
>
> Inasmuch as the State Department of Health, through its Advisory Board, has promulgated sane regulations for the control of venereal diseases, including the furnishing to all physicians of suitable literature to be placed in the hands of their patients and providing for quarantine of those who are disobedient; and inasmuch as the State Department of Health has provided free treatment for those without funds through thirty genito-urinary dispensaries in the populous centers of the Commonwealth; therefore be it
>
> *Resolved* That the House of Delegates of the Medical Society of the State of Pennsylvania expresses its hearty approval of what the State Department of Health has done to decrease the evil of the spread of venereal diseases.

The Assistant Secretary read the following preamble and resolution, which were presented by Dr. Kennard J. French, Factoryville:

> Whereas, Twenty-seven States have passed laws permitting reciprocity on the bases of a diploma and lawful registration before the formation of their respective state licensing boards, and Pennsylvania laws do not permit any such reciprocity; therefore, be it
>
> *Resolved,* By the House of Delegates, that they instruct the Committee on Public Policy and Legislation to prepare a bill permitting such reciprocity, and urge its passage by the legislature.

On motion of Dr. W. L. Estes, South Bethlehem, duly seconded, the resolution was laid on the table.

Dr. Estes stated that the Board of Trustees had taken up the matter of the distribution of funds, and as it was probable that another redistribution would have to be made after the war, he thought that it was inexpedient to change the Constitution and By-Laws this year, and then again next year. He, therefore, moved and recommended that the By-Law with reference to the distribution of funds be suspended, and that the matter be referred to the Board of Trustees for adjustment and report to the House of Delegates. Seconded by Dr. Wagoner and carried.

Dr. Estes stated that as a committee of one, he had conveyed the pleasant intelligence to Dr. Stevens of his election as President-Elect, and that Dr. Stevens wished him to express to the House of Delegates his deepest thanks and great appreciation for the distinguished honor conferred on him. Dr. Stevens expressed the hope that President Van Sickle would have the hearty support, cooperation and loyalty of every member. He instanced the fact that the success of the Allies began and was chiefly due to the fact that one man was made responsible for the actions of whatever kind of all the armies, and that through the loyalty and support of these armies, progress was now being made on the fields of battle, and in this field of battle in the state he asked for the support and loyalty of every member for the President as the head of the organized profession of Pennsylvania.

On motion of Dr. George W. Wagoner, the House of Delegates adjourned to meet at 9 a. m., Thursday, September 26.

Thursday Morning, Sept. 26, 1918

The House of Delegates met at 9:20 a. m. and was called to order by President Van Sickle.

On motion of Dr. W. L. Estes, South Bethlehem, duly seconded, roll call was dispensed with.

The minutes of the previous meeting were read, corrected and approved.

The Assistant Secretary read a telegram from former President Codman, wishing a successful meeting.

Dr. Frank C. Hammond, Philadelphia, Chairman, presented the Report of the Reference Committee on New Business, as follows:

Your Reference Committee on New Business recommends the adoption of the resolutions presented by Dr. Ellenberger.

Frank C. Hammond, Chairman,
W. T. Williams.

Dr. Spencer M. Free, Dubois, presented the following report for the Board of Trustees:

The Committee appointed by the Board of Trustees to consider the matter of dues for the year 1919 recommend that they remain the same as at present; but that the assessment of 75 cents for the Defense Fund be reduced to 25 cents, and that of 10 cents for the Benevolence Fund be reduced to 5 cents, and that the difference in assessment of the dues be transferred to the General Fund.

The Board of Trustees refers this report to the House of Delegates, with the recommendation that it be adopted.

On motion of Dr. Edward B. Heckel, Pittsburgh, seconded by Dr. Adolph Koenig, the report was received and approved.

Dr. Frank G. Hartman, Lancaster, stated that the Auditing Committee of the Board of Trustees had examined the books of the Secretary and the Treasurer and had found them correct.

On motion of Dr. Edward B. Heckel, Pittsburgh, seconded by Dr. W. L. Estes, South Bethlehem, the report was received, approved and ordered spread on the minutes.

Dr. George A. Knowles, Philadelphia, for the Committee on Public Policy and Legislation, stated that the committee had decided on the call of a conference to consider the subject of Health Insurance and allied subjects.

Dr. Edward B. Heckel, Pittsburgh, moved that the report be received, and that the Committee on Public Policy and Legislation be authorized to organize such a conference. Seconded and carried.

Dr. Elmer L. Meyers, Wilkes-Barre, called attention to the illness of the Secretary, Dr. C. L. Stevens, since the first day of the meeting, and moved that the sympathy of the members of the House of Delegates be conveyed to Dr. Stevens, with hearty wishes for a speedy recovery, and that a bunch of flowers be sent to Mrs. Stevens. Seconded by Dr. Spencer M. Free, Dubois, and carried. The Assistant Secretary was instructed to transmit or convey in person this message of sympathy.

On motion of Dr. Edward B. Heckel, Pittsburgh, duly seconded, the hearty and sincere thanks of the House of Delegates were extended to the retiring officers for their efficient and faithful service during their term of office.

On motion of Dr. Edward B. Heckel, Pittsburgh, seconded by Dr. W. L. Estes, and carried unanimously, the thanks of the House of Delegates were extended to the Philadelphia County Medical Society, and especially to the local Committee on Arrangements, and particularly the chairman of that committee, for their generous and sincere and hearty entertainment which they had given during this session.

Dr. Frank C. Hammond, Philadelphia, read the following communication from the American Association of Pharmaceutical Chemists, addressed to Senator Penrose, of the United States Senate:

Sept. 19, 1918

Hon. Boies Penrose,
Member of the Senate Finance Committee,
United States Senate,
Washington, D. C.

Sir:—We respectfully direct your attention, as a member of the Senate Finance Committee, to Section 908, (2), of the pending Revenue Bill now before the Senate Finance Committee, imposing an excise tax of 10 per cent. on the sale of medicinal preparations.

We should state, at the very beginning, that this organization includes within its membership over fifty of the leading pharmaceutical manufacturers of this country, manufacturing and selling medicinal preparations for prescribing or dispensing by the physician, dentist or veterinary surgeon. The members of this organization do not manufacture the popular patent and proprietary medicines sold and advertised direct to the general laity without the intervention of the physician.

Section 908, (2), of the pending Revenue Bill is almost a verbatim copy of Section 600, Subdivision (h), of the present Revenue Law, with the exception that the excise tax imposed is increased from 2 per cent. to 10 per cent. and the method of collecting the tax has been modified.

It was the intent of Congress that this Section should apply only to the popular patent or proprietary medicines directly advertised and sold to the laity considered as semiluxuries. The House Ways and Means Committee, in reporting the present bill (Report No. 767), states with reference to the proposed excise taxes: "In recommending excise taxes in the proposed bill, your committee has endeavored to select articles that fall within two classes: (1) articles that are more or less a luxury because of their nature, and (2) articles that become in the nature of a luxury when sold for more than a fixed price."

The point to which we wish to direct your attention is that the language of this Section as proposed and construed by the Internal Revenue Department, applies not only to the popular patent and proprietary medicines advertised and sold directly to the laity but also to the essential medicinal preparations which are dispensed or prescribed by the physicians, dentists or veterinary surgeon. The popular patent or proprietary medicines may be properly classed as semiluxuries, in view of the fact that they are used without the directions of the physician. Indeed, the demand therefor is solely created by an advertising appeal. On the other hand, the medicinal preparations which the physician customarily uses from day to day in treating his patients are his essential tools and cannot by any possibility be classed as luxuries or as of the same inherent character as the popular patent or proprietary medicines. The physician's drugs are essentials and not luxuries, and should not be taxed as luxuries or semiluxuries.

In order to make plain the intent of Congress and effect that intent, we respectfully suggest that the following proviso be added at the end of Section 908, (2), of the pending bill, to wit:

"Provided, however, that the provisions of this section shall not apply to the medicinal preparations customarily prescribed or dispensed by the physician, dentist or veterinary surgeon in the course of his legitimate medical practice, which preparations are not advertised to the general lay public."

This amendment will exempt from the operation of the Statute the essential physicians' drugs, and leave within the purview of the Statute the popular or proprietary medicinal preparations which are in every instance advertised to the general lay public.

The enactment of these provisions in their present form would result in a large increase in the cost of the essential medicinal preparations to the physician and to the sick. Since it is not the purpose of Congress to tax the physician's drugs, we trust that the aforesaid proviso or some provision of similar effect will be added to Section 908, Subdivision (2).

We beg to remain,

Very respectfully yours,
American Association of Pharmaceutical Chemists.

After reading this letter, Dr. Hammond presented the following resolution:

Resolved, That the Medical Society of the State of Pennsylvania, while in annual session, Thursday, Sept. 26, 1918, begs to call to the attention of the Senate Finance Committee Section 908 (2) of the pending revenue bill now before the committee, imposing an excise tax of 10 per cent. upon the sale of medicinal preparations, the idea of the bill undoubtedly being to levy such excise tax on "patent or proprietary remedies only"; and

Whereas, This tax must be paid by the individual who is sick, this Society recommends that in order to make plain the intent of Congress and effect that intent, the following proviso be added at the end of Section 908 (2) of the pending bill, to wit:

"Provided, however, that the provisions of this section shall not apply to the medicinal preparations customarily prescribed or dispensed by the physician, dentist or veterinary surgeon in the course of his legitimate medical practice, which preparations are not advertised to the general lay public."

This amendment will exempt from the operation of the statute the essential physicians' drugs, and leave within the purview of the statute the popular or proprietary medicinal preparations which are in every instance advertised to the general lay public.

On motion of Dr. J. M. Baldy, Philadelphia, seconded by Dr. Edward B. Heckel, the resolution was adopted and declared to be the sense of the House of Delegates.

Dr. W. L. Estes, South Bethlehem, moved that a copy of the resolution be transmitted to Senator Penrose and to the proper Senate Committee. Seconded and carried.

As there was no further business to come before the meeting, on motion of Dr. Edward B. Heckel, Pittsburgh, seconded by Dr. W. L. Estes, South Bethlehem, the House of Delegates adjourned *sine die.*

Frederick L. Van Sickel,
President.
Christian B. Longenecker,
Assistant Secretary.

MINUTES OF THE GENERAL MEETINGS

Tuesday Morning, Sept. 24, 1918

The sixty-eighth annual session of the Medical Society of the State of Pennsylvania was called to order in General Meeting at 10 a. m., Tuesday, September 24, in the Ball Room of the Bellevue-Stratford Hotel, Philadelphia.

Prayer

by the rev. father john w. keogh

O, Almighty and Everlasting God, Eternal Health of those who believe, bless these medical men of science who gather here this morning. Silently they pray with me. Make fruitful their petition which asks from Thee Thy blessing on their deliberations. They merit Thy heavenly favor, for their humble prayer poured forth this day in Thy sight is their abiding testimony of the harmony of faith and science. This great war of arms, O, God! in which our nation is engaged has convinced our generation of the need of Thee and of prayer.

Pour upon this organization, the Medical Society of the State of Pennsylvania, we beseech Thee, Thy holy grace that all its work for humanity may redound to Thy good and be in keeping with Thy holy law and will.

O, Jesus, Author of life, Heaven sent Physician of soul and body, Who didst come on earth that sinful humanity be saved and likewise that the blind see, the lame walk, the leper be cleansed, the deaf hear, the dead rise again, teach these healers of the ills to which flesh is heir that they be like Thyself, self-sacrificing even unto death for humanity's sake, and that in going about doing good they may ever recognize the sacred rights of humanity and perform their duties with strict adherence to the principles of the natural law and the norms of morality revealed by Thee, their God.

O, Spirit of God, Divine Teacher, vivify the knowledge and skill of these men of science who are invoking Thy blessing. Crown their labors with success.

O, Heavenly Father, bless this our country, our President, our soldiers and sailors, our people and each of us. Thy Divine Word teaches us, "Life on earth is a warfare." Teach us, O, Heavenly Father, our Paternal Guide, that patriotism which will urge us ever to battle against the common enemy of our souls that we may succeed in saving our lives and may live happily with Thee in the land we win by our victory.

O, Son of God! teach us the love of God which prompted Thy Father to give Thee, His all, for us, and induced Thee, to give Thine all, Thyself, for us, that animated by the same spirit of giving we in this hour of America's need, led by the three fundamental principles of Christianity which Thou didst teach us, may pray till we win the war, fast till we win the war, and give alms to America till we win the war. If we pray not we cannot win, but if we pray we will fast, and we will give, yea, give our all, if there be need, as Thou didst. Thou hast taught us that to win a cause we must die to self. Lord Jesus, direct us.

Come Holy Spirit, fill the hearts of the faithful, enkindle in them the fire of Thy love, send forth Thy Spirit and they shall be recreated, and Thou shalt renew the face of the earth.

Presentation of Gavel to the Retiring President

Dr. Irwin J. Moyer: *Dr. Walter F. Donaldson, President of the Medical Society of the State of Pennsylvania:* On behalf of the Medical Society of the State of Pennsylvania, and as a token of honor of the office which you hold, it is my pleasure to present you with this gavel. It is presented also as a token of respect for the modesty and efficiency characterizing your service in the brief time you have been our President. May you always wield it with efficiency, power and justice.

President Donaldson: *Dr. Moyer*: The presentation of this gavel by the Board of Trustees is deeply gratifying, and is accepted by me in the deepest sense as a tribute to the high character of my predecessors in this office.

Fellow Members: Throughout the months that have elapsed since the death of Dr. Samuel Dixon I have felt very keenly my unworthiness to fill the place of that distinguished scientist, who, when apprised of his election to the presidency of the Medical Society of the State of Pennsylvania, declared this office to be his greatest honor.

For obvious reasons there has been little opportunity for constructive action during the administrative year now drawing to its conclusion. The prolonged and fatal illness of President Dixon, together with the distractions occasioned by the world war, has served to diminish enthusiasm in efforts intended and expected to bring about improved conditions within our Society. Plans developed in former years have, however, further demonstrated the foresight of those who formulated and presented them.

Our endowment and benevolent funds, together with the fund for medical defense, have shown healthy growth in a manner redounding to the credit of those officers who have so wisely administered them.

The responsibilities of organized medicine have been multiplied during recent months by the increasing vigor of American prosecution of the world war for liberty. No organization has met this call for consecrated sacrifice more devotedly than the Medical Society of the State of Pennsylvania, as represented by its 2,000 volunteers. Our active membership has been reduced more than 30 per cent. and Pennsylvania still retains its proud leadership among the larger states in the proportion of volunteers in the Medical Corps.

The motif and the distribution of this military membership add tremendously to the responsibilities of us who remain behind. We must maintain all factors that make for progress, scientific and social. We must guard against the inroads of paternalistic socialism that invariably chooses our profession for exploitation.

The burden of the care of our civil population may rest heavily on us during the coming months, but no degree of weariness should weaken our support of county and state societies.

Our duty to our enlisted members should not end with efforts to maintain intact their individual practices and our organizations. We can and should do much toward the proper recognition and advancement of medical officers in the Army and Navy. Between innate modesty and characteristic devotion to the task at hand they find no opportunity for a word in their own behalf. We, however, knowing full well that modern warfare cannot be successfully prosecuted without medical men, and that the present war is from every source acknowledged to be their crowning achievement, we, I repeat, should influence public opinion and our representatives in Congress to accord them rank and pay proportionate to their sacrifices and their responsibilities.

In closing, I wish to acknowledge specifically the debt I owe to our faithful Secretary, Dr. Stevens, as well as the pleasure I have had in the closer contact afforded me with officers and members throughout the state, and to bespeak for President-Elect Van Sickle a continuation of your considerate kindness.

Address of Welcome

BY DR. WILMER KRUSEN, DIRECTOR OF PUBLIC HEALTH AND CHARITIES

Mr. President, Veterans of the State Society and Fellow Members: In the absence of the Mayor of the city I consider it a great honor and a very pleasant privilege to welcome on behalf of the municipality of the City of Philadelphia this great organization which I have loved so long, the Medical Society of the State of Pennsylvania. In 1682 (don't be alarmed, I am not going to review the history of the city from that date to this), the ship which bore the founder of this commonwealth from England to the present site of Philadelphia was named "The Welcome," most propitious name, and today Philadelphia is opening her heart and her homes to the scientific organization which you represent. The founder of this commonwealth had a broad vision of a democracy, a people who should govern themselves and who were to be happy in this colony which he was founding in a new world. My friends, I welcome you today to historic Philadelphia. We have here the holiest spot in this nation, the scene of the Declaration of Independence. This city was the scene of the foundation of the constitution of this nation, and today we possess the most precious relic which our country owns, in the liberty bell, which is still proclaiming liberty "to all the world, to all the inhabitants thereof." We also are proud of that little house on Arch Street, the natal home of "Old Glory," the Betsy Ross house; and, if you travel in our park you will see there on a bluff above the Schuylkill, one of the few bluffs in Philadelphia, the little house which was the home of William Penn before he built his city home at Pennsburg. There are other spots in our city worthy of the visits of this organization.

I welcome you also on behalf of industrial Philadelphia, for 200,000 of our men and women are working in manufactory and shop, which work has to do with the supplies for our boys overseas. Industrial Philadelphia welcomes you to a consideration of those interests which have to do not only with the care and protection of the civil population, but with the rehabilitation of our soldiers and their reconstruction after this war is over and victory won.

I welcome you on behalf of medical Philadelphia. We have had in this city men like Gross and Agnew, Pepper, Stille and Wood—men who have shed luster on Pennsylvania and Philadelphia medicine.

And we are proud of the fact of the large proportion of our members who are serving in the camps and cantonments, overseas and in the air and on the seas for the sake of this nation.

I welcome you also on behalf of patriotic Philadelphia. We oversubscribed the Third Liberty Loan. We have given in this district over $20,000,000 donation to the War Chest, and we are prepared to give until it hurts.

I welcome you also on behalf of the boys overseas. 'In the meeting of this week we are to consider many problems of vital interest. We must not forget the protection of civilian health and we have this brought home to us very forcibly at the present time when we have an epidemic of influenza (call it Spanish, German, or what you will) at our very doors. We cannot afford to relax our vigilance in regard to the protection of our home population if we want to have the workers at home provide those things needed by the boys in the trenches. There is a story told of three brothers, named Levy, who owned three department stores, one each in San Francisco, Chicago and New York. The brother in San Francisco was drafted into the Service and went to France. He received a letter from his brother in Chicago saying that his store had burned down, that he had collected the insurance and was sending it over. A week later he received a letter from the brother in New York saying that the New York store had burned down, but that he had collected the insurance and was sending him his share. A month later the brothers on this side received a letter from the one in France, saying, "Doing fine. Keep the home fires burning." Now, my friends, that is what we are trying to do in Philadelphia in a broader and more practical sense. We are trying to keep the home fires burning so that when our boys come home they may find that their loved ones have been protected by the medical profession of the state of Pennsylvania during their absence. This is a time when our prayer and the prayer of this commonwealth should be:

"God give us men. A time like this demands
Strong minds, great hearts, true faith and willing hands;
Men whom the lust of office does not kill;
Men whom the spoils of office cannot buy;
Men who possess opinions and a will;
Men who have honor; men who will not lie;
Men who could face the demagogue
And damn his treacherous flatteries without winking;
Tall men, sun-crowned, who live above the fog
In public service and in private thinking."

I thank you.

Address of Welcome

BY DR. FRANK C. HAMMOND, PRESIDENT, PHILADELPHIA COUNTY MEDICAL SOCIETY

Mr. President, Ladies and Gentlemen: The Philadelphia County Medical Society extends a most cordial welcome to the Medical Society of the State of Pennsylvania on this sixty-eighth Annual Session. You will find that there are many faces missing from this Session, due to several reasons: The county medical society during the past year has sustained by death the loss of several of its valued members. Among these is the lamented Samuel G. Dixon. The county society shares with the State Society in that irreparable loss. Dr. Dixon at the time of his death was the President of our State Society. You will miss many faces due to the fact that many constituting the faculties of medical schools have gone into the Service. Philadelphia still maintains the supremacy in the medical teaching of the United States and the medical schools of this city have given their best to the colors. This will explain why many whom you are accustomed to meet are not here to greet you. They are overseas, in the camps; they are doing the best they can to help the government in the winning of the war. There are many men not here because the communities in which they live are short of physicians and they have been obliged to remain at home. The Philadelphia County Medical Society greatly regrets that owing to the exigencies of war they cannot be with us. Of the physicians of Pennsylvania available for service in the Army and Navy, 26.4 per cent. have accepted commissions—a record of which Pennsylvania feels justly proud. You will notice as you go about our city that it is the home of the industries. The Philadelphia Chamber of Commerce tells us that over one sixth of the supplies sent abroad are manufactured here in the Philadelphia district. We should like very much if those of you who can remain over should take advantage of the river trip, up to Bristol and down to Chester, and obtain some idea of the great shipping industries in action along the Delaware, which may truly be said to be the Clyde of America.

Many inquiries have been made regarding entrance to the Medical Corps of the United States Army. In reply I may say that the Medical Board of this city is in charge of Capt. John W. West who may be seen at 584 City Hall any day between 9 and 12 and from 2 to 4.

The entertainment program which has been arranged for you will be announced by the chairman of the committee, and the Philadelphia County Medical Society sincerely trusts that after you return home you will feel that your trip to Philadelphia has been all that you could possibly desire.

Presentation of Program

BY DR. OSKAR KLOTZ, PITTSBURGH, CHAIRMAN OF COMMITTEE ON SCIENTIFIC WORK

Mr. President, Ladies and Gentlemen: I take great pleasure in presenting you with the program of this meeting. The committee has felt the weight of the responsibility placed on it and it could not have achieved such a program as it now presents had not the members of the State Society from all parts of the state cooperated so heartily in the work. We have met with many disappointments; you will miss the faces of men who were commonly with us and whose names were on the program either for papers or for discussion. We miss them but we know that they are working in more active service, and we are glad to know that the state is able to give to the country men of this caliber, men who can serve the country at this time. The committee feels, however, gratified that the members of this State Society have cheerfully come forward to bear the burdens of the organization, to carry forward the duties of the Society, awaiting cheerfully and with high hopes the return of their colleagues. Let us in looking over the program read between the lines, being not forgetful of our absent colleagues.

Announcements of Entertainments

by Dr. William Duffield Robinson, Chairman, Committee on Entertainment

Mr. President, Ladies and Gentlemen, Members of the State Medical Society: We are here for an extremely serious business and it is very well to add that it is not all serious. We have the necessity of entertainment and diversion on this occasion beyond all possible doubt. Associated with our Committee on Entertainment it fell to my lot to try to arrange such entertainment as might be for your pleasure. I will simply say that Philadelphia wanted you, and wanted you very much. An indication of your welcome can be shown without any boast by saying that when we sent out word that we should be glad to receive contributions for your entertainment, the 73 per cent. of the physicians of Philadelphia who remained away from war have contributed more than has ever been given for the entertainment of the State Medical Society. We are trying to expend that money wisely. This evening in this room we have a patriotic meeting. The address will be made by a man of international renown — Charles M. Schwab. It is hard to think of any man who does not wish to hear him. Ladies are welcome to the entertainment tonight and on Thursday night. Following Mr. Schwab, Col. George E. deSchweinitz will address us. Then there will be an address by Dr. E. P. Davis, president of the Volunteer Medical Service Corps. I am confident that you will want very much to know what these men have to say. One of the leading baritones of the country, if not of the world, Mr. Werrenrath, will sing. It is but fair to say that Mme. Schumann-Heink offered to come and sing without pay, but unfortunately, was required to be in Chicago. Mme. Homer also offered to come, but her agents made an unexpected engagement for her for this evening. We then engaged the man who is to sing tonight, and I know you will be delighted to hear him. Also we shall have music on what is said to be a most wonderful piano-player.

Tomorrow, Wednesday, the entertainments are principally for the ladies attending from outside of Philadelphia. Members registering will find cards to hand to the ladies of their party. These should be taken to Mrs. Charles A. E. Codman, who with a few members of her committee will have tickets for the matinee at Schubert's new theater tomorrow afternoon. The ladies, of course, are extremely welcome. We would like to know if possible as nearly as may be the number who will attend that we may be sure to have enough reservations.

Tomorrow evening is the President's Reception, which is in charge of the state committee and in which our Philadelphia committee will render all possible aid.

Thursday morning at 9 o'clock a boat will leave Chestnut Street wharf for a trip showing Hog Island from the river front. We did everything we could to secure entrance to the Island but this was absolutely impossible. This trip is planned for the visiting ladies. The fare to the Philadelphia ladies will be 50 cents. Those so desiring may leave the boat at Chester, which is about an hour's ride, and return to the city by trolley or train. I hope all who hear me will mention this notice that visiting ladies shall know of the opportunity.

On Thursday evening we have a general entertainment which we believe you will thoroughly enjoy. Tickets may be secured at the registration bureau. Reservations for Tuesday night will be until 8:30; for Thursday night until 8:15. Seats in the first three rows will be reserved for members of the House of Delegates. We hope that the entertainment provided may be fully enjoyed by all.

Dr. Edward B. Heckel, Pittsburgh, asked the attention of the Society to the work of the exhibitors.

Credentials of visiting delegates were presented and the representatives given the privileges of the floor.

The "Message of the President of the Medical Society of the State of Pennsylvania" was then delivered by Dr. Frederick L. Van Sickle, Olyphant (see page 1, October Journal).

Dr. C. L. Stevens moved that a copy of President Van Sickle's address be requested for publication and the recommendations therein contained be referred to the Reference Committee on Reports of Officers and Committees in the House of Delegates. This suggestion was adopted without vote.

Dr. Van Sickle then took the Presidential Chair and the paper on "The Interpretation of the Manifestations of Shock," was read by Dr. Charles Claude Guthrie, Pittsburgh.

"The Treatment of Surgical Shock in Military Surgery," was read by Dr. John B. Roberts, Philadelphia.

The preceding two papers were discussed by Drs. Samuel James Meltzer, New York; William L. Estes, South Bethlehem; Oskar Klotz, Pittsburgh, and closed by Drs. Guthrie and Roberts.

"War and the Child," was read by Dr. Samuel McC. Hamill, Philadelphia.

Adjourned until Wednesday, Sept. 25, at 9 a. m.

Walter F. Donaldson, President,
Cyrus Lee Stevens, Secretary.

Wednesday Morning, Sept. 25, 1918

The meeting was called to order at 9:40 a. m., by the Second Vice President, Dr. B. Franklin Royer, Harrisburg; Dr. Julius H. Comroe, acting as Secretary.

"Follow-up System of the Pennsylvania Department of Health for Former Tuberculous Patients," was read by Dr. Karl Schaffle, Harrisburg; followed by distribution of charts and follow-up cards, and discussed by Drs. B. Franklin Royer, Harrisburg; Charles H. Miner, Wilkes-Barre, and closed by Dr. Schaffle.

In the symposium on Internal Secretion the first paper, "Some General Considerations. The Ductless Glands in Military Practice," was read by Dr. Charles E. deM. Sajous, Philadelphia. Dr. David L. Edsall, Boston, who was to have read a paper on "Hyperthyroidism and Related Conditions," sent a telegram of regret that he was not able to be present. The paper by Dr. Sajous was discussed by Drs. John A. Lichty and E. Bosworth McCready, Pittsburgh, and closed by Dr. Sajous.

"The Present Status of the Treatment of Syphilis," was read by Dr. Jay F. Schamberg, Philadelphia, followed by a lantern demonstration, and discussed by Drs. F. X. Dercum, Philadelphia; B. Franklin Royer, Harrisburg; John A. Lichty, Pittsburgh, and closed by Dr. Schamberg.

At this juncture the chair was taken by Dr. Walter F. Donaldson, former President.

"A Method of Tracheotomy without Loss of Blood," was read by Dr. Donald Guthrie, Sayre, followed by lantern demonstration, and discussed by Drs. George P. Müller, Philadelphia; J. Norman White, Scranton, and closed by Dr. Guthrie.

Adjourned until Thursday, Sept. 26, at 2 p. m.

B. Franklin Royer, Second Vice President,
Julius H. Comroe, Acting Secretary.

Thursday Afternoon, Sept. 26, 1918

The meeting was called to order at 2:20 p. m., by the President, Dr. Frederick L. Van Sickle, Olyphant.

"The Reeducation of the Injured Soldier," was read by Dr. R. Tait McKenzie, Philadelphia.

Miss Kenzie gave a demonstration of speech reading, showing the place that lip reading is to have in the reeducation of the deaf soldier.

"The Cardiovascular Problem in the Aviation Recruit," was read by Dr. James I. Johnston, Pittsburgh.

"Medical Complaints, and New Phases of Previously Recognized Conditions, Due to War Emergency," was read by Dr. James M. Anders, Philadelphia, and discussed by Drs. Thomas McCrae, A. E. Blackburn, A. E. Roussel, Philadelphia, and closed by Dr. Anders.

"The Fixed Full-Time Staff in the Organization of the Small Hospital," was read by Dr. Harold L. Foss, Danville.

"Some Blood Changes in Rats on Cancer Inhibiting and Cancer Stimulating Diets," was read by Dr. Ellen P. Corson-White, Philadelphia.

A resolution, presented by Dr. Johnson of Washington, endorsing the federal control of venereal diseases and urging the observance of regulations of the State Department of Health in the control of these diseases, was adopted by the Society, with the approval of knowledge of such action being given to the lay press.

Society in General Meeting adjourned at 4 p. m.

Frederick L. Van Sickle, President,
Walter F. Donaldson, Secretary.

MINUTES OF THE SECTION ON MEDICINE

Tuesday Afternoon, Sept. 24, 1918

The Section on Medicine was called to order in the Clover Room of the Bellevue-Stratford Hotel, Tuesday, September 24, at 2 p. m., by the chairman, Dr. Irwin J. Moyer, Pittsburgh.

The chairman's address was read by Dr. Moyer. The secretary, Dr. George E. Holtzapple, York, occupied the chair during the reading of the address.

"Pneumonia—Cause and Treatment," was read by Dr. William J. K. Kline, Greensburg, and discussed by Drs. Charles Rea, York, and S. Solis-Cohen, Philadelphia.

"Some Recent Results of Coordination of Laboratory and Clinical Researches in Pneumonia," was presented by Dr. Solomon Solis-Cohen, Philadelphia, and discussed by Drs. David Riesman, M. Howard Fussell, George D. Heist, Philadelphia, and closed by Dr. Cohen.

"Laboratory Methods—Their Value and Practicability in General Medicine," was read by Dr. M. Howard Fussell, Philadelphia, and discussed by Drs. Henry Rhea Douglas, Harrisburg; H. W. Mitchell, Paul G. Weston, Warren; Charles Rea, York.

"X-Ray Examination of Heart and Great Vessels," with diagrammatic illustrations, was presented by Dr. George W. Grier, Pittsburgh.

"Some Drug Eruptions," with lantern demonstration was presented by Dr. Milton B. Hartzell, Philadelphia, and discussed by Dr. Julius H. Comroe, York, and closed by Dr. Hartzell.

"The County Medical Inspector's Place in Preventive Medicine," was read by Dr. Clarence R. Phillips, Harrisburg, and discussed by Dr. Wilmer Krusen, Philadelphia, and closed by Dr. Phillips.

Adjourned until Wednesday, Sept. 25, at 2 p. m.

Wednesday Afternoon, Sept. 25, 1918

The Section was called to order by the chairman, Dr. Moyer, at 2 p. m.

The report of the Executive Committee was presented and the following officers for the Section were duly elected: Chairman, Dr. George E. Holtzapple, York; secretary, Dr. M. Howard Fussell, Philadelphia.

"The Problem of Combating Septicemias, with Special Reference to Arsphenamin and Allied Compounds," was read by Dr. Samuel R. Haythorn, Pittsburgh, and discussed by Drs. H. A. Miller, G. C. Weil, Pittsburgh, and closed by Dr. Haythorn.

"One Hundred Cases Treated with Autogenous Vaccines," was read by Dr. William A. Womer, New Castle, and discussed by Dr. Walter D. Blankenship, Lancaster.

"Diagnosis of Pulmonary Tuberculosis by Physical Examination," was read by Dr. Louis V. Hamman, Baltimore, and discussed by Drs. Elmer H. Funk, Albert E. Roussel, Thomas McCrae, Philadelphia; Charles H. Miner, Wilkes-Barre; Alexander Armstrong, White Haven; John A. Lichty, Pittsburgh, and closed by Dr. Hamman.

"The Roentgen-Ray Diagnosis of Pulmonary Tuberculosis," by Dr. Henry K. Pancoast, Philadelphia, was read by title, and the discussion prepared for this paper was presented by Dr. J. Wesley Ellenberger, Harrisburg.

"Essential Hypertension," by Dr. Herman O. Mosenthal, Baltimore, was read by Dr. Louis V. Hamman, and discussed by Drs. Ross V. Patterson, James M. Anders, Francis Ashley Faught, Philadelphia, and closed by Dr. Hamman.

Chairman Moyer offered the thanks of the Section to Drs. Hamman and Mosenthal for their valuable papers and interest in the scientific work of the Section.

"Blood Pressure Abnormalities from the Standpoint of the General Practitioner," was read by Dr. Hobart A. Hare, Philadelphia.

"Blood Pressure as a Prognostic Factor," was read by Dr. R. Max Goepp, Philadelphia, and discussed by Drs. F. A. Faught, Philadelphia; J. A. Lichty, I. J. Moyer, Pittsburgh, and closed by Dr. Goepp.

"The Results of Tests for Food Protein Sensitiveness in a Small Group of Asthmatics," was read by Dr. Alexander Sterling, Philadelphia, and discussed by Dr. Gordon J. Saxon, Philadelphia.

Adjourned until Thursday, Sept. 26, at 9 a. m.

Thursday Morning, Sept. 26, 1918

The Section was called to order by the chairman, Dr. Moyer, at 9:45 a. m.

"The Treatment of Syphilis of the Central Nervous System," was read by Dr. Thomas P. Tredway, Erie.

"Observations on the Treatment of Cerebrospinal Syphilis by Injections of Auto-Arsphenaminized Serum," was read by Dr. B. A. Thomas, Philadelphia.

The preceding two papers were discussed by Drs. Lorraine L. Schwartz, John A. Lichty, Pittsburgh; Jay F. Schamberg, Alfred Gordon, Philadelphia; Paul G. Weston, Warren, and closed by Dr. Thomas.

"The Duties, Responsibilities and Rights of the Members of the Patient's Family," was read by Dr. Theodore Diller, Pittsburgh.

"Nervous and Mental Sequelae Following Infectious Diseases," was read by Dr. Alfred Gordon, Philadelphia, and discussed by Drs. Theodore Diller, E. E. Mayer, Pittsburgh, and closed by Dr. Gordon.

"The Application of the Principles of Advanced Psychiatry," illustrated by charts, was presented by Dr. J. Allen Jackson, Philadelphia, and discussed by Drs. John A. Lichty, Theodore Diller, Pittsburgh; S Solis-Cohen, Frank Woodbury, Prof. N. J. Melville, Philadelphia.

On motion the paper of Dr. J. Allen Jackson, with the suggestive discussion, was referred to the Committee on Public Policy and Legislation with the request that the committee consider how the subject could best be brought to the professional, public, and official attention.

Dr. Frank Woodbury moved that a special committee be appointed to study the subject presented by Dr. Jackson's paper and to report at the next annual meeting of the Society. It was suggested that such committee cooperate with the Committee on Promotion of Efficient Laws on Insanity. Drs. J. Allen Jackson, Frank Woodbury and S. Solis-Cohen were mentioned as the special committee.

Dr. E. E. Mayer, Pittsburgh, suggested the desirability of devoting an entire morning or afternoon at the next annual meeting to the subject presented by Dr. Jackson, and on motion the matter was referred to the Committee on Mental Hygiene with the request for their cooperation in such plan.

"Prognosis in Cases of Intestinal Perforation in Typhoid Fever without Operation," was read by Dr. Charles W. Eisenhower, York, and discussed by Drs. S. Solis-Cohen, Philadelphia; David S. Funk, Harrisburg; H. D. Washburn, Susquehanna; George E. Holtzapple, York; James I. Johnston, Pittsburgh.

"Report of a Case of Pellagra," was read by Dr. Lorraine L. Schwartz, Pittsburgh, and discussed by Drs. John G. Burke, James I. Johnston, Pittsburgh; Paul G. Weston, Warren, and closed by Dr. Schwartz.

Adjourned shortly after 1 p. m.

Irwin J. Moyer, Chairman,
George E. Holtzapple, Secretary.

MINUTES OF THE SECTION ON SURGERY

Tuesday Afternoon, Sept. 24, 1918

The Section on Surgery was called to order at 2: 15 p. m. in the Ball Room of the Bellevue-Stratford Hotel, by the chairman, Dr. John L. Atlee, Lancaster.

The chairman's address was delivered by Dr. Atlee.

"An Anatomical Incision for Inguinal and Femoral Hernia," was read by Dr. J. Norman White, Scranton, and discussed by Drs. Henry C. Deaver, T. Turner Thomas, B. A. Thomas, Philadelphia, and closed by Dr. White.

"Thoracic Surgery" was read by Dr. George P. Müller, Philadelphia, and discussed by Drs. Nathan W. Green, Samuel J. Meltzer, New York, and closed by Dr. Müller.

"Concerning the Absence of Clinical Symptoms During the Preperforative Stage of Duodenal Ulcer," was read by Dr. Levi Jay Hammond, Philadelphia, and discussed by Drs. Frank Alleman, Lancaster; Moses Behrend, John J. Gilbride, Philadelphia, and closed by Dr. Hammond.

"The Treatment of Malignant Disease by Combined Methods, Surgery, Electrocoagulation, Roentgen Ray and Radium," followed by a lantern demonstration, was presented by Dr. George E. Pfahler, Philadelphia, and discussed by Drs. William L. Clark, G. Betton Massey, Philadelphia; William L. Estes, South Bethlehem, and closed by Dr. Pfahler.

"Some of the Postoperative Sequelae of Acute Appendicitis," was read by Dr. John B. Deaver, Philadelphia, and discussed by Dr. Harry J. Donaldson, Williamsport, and closed by Dr. Deaver.

"Radiographic Diagnosis of Ileocecal Valve Incompetency," was read by Dr. Mulford K. Fisher, Philadelphia, and discussed by Dr. J. Thompson Schell, Philadelphia.

Adjourned at 5 p. m. until Wednesday, September 25, at 2 p. m.

Wednesday Afternoon, Sept. 25, 1918

The Section was called to order by the chairman, Dr. Atlee, at 2: 05 p. m.

The nominations for officers for the ensuing year prepared by the Executive Committee were read by the chairman, Dr. Atlee, and the following officers were duly elected: chairman, Dr. Donald Guthrie, Sayre; secretary, Dr. Ellwood R. Kirby, Philadelphia.

"An Experimental Study of Abdominal Adhesions," was presented by Dr. Moses Behrend, Philadelphia, and discussed by Dr. George W. Reese, Shamokin.

"A Report of an Operation Designed to Correct Large Cystoceles in Young Women, and to Permit Future Childhearing," by Dr. John Cooke Hirst, Philadelphia, was read by Dr. G. V. Janvier, Lansdowne, and discussed by Drs. Collin Foulkrod, M. Behrend, Philadelphia, and closed by Dr. Janvier.

"Aseptic Technic in Obstetrics," was read by Dr. Charles G. Strickland, Erie, and discussed by Drs. Alfred Heineberg, Philadelphia; G. V. Janvier, Lansdowne, and closed by Dr. Strickland.

"Acute Osteomyelitis in Children," was read by Dr. Alfred C. Wood, Philadelphia.

"Bone Growth and Degeneration," with lantern demonstration, was presented by Dr. Stewart L. McCurdy, Pittsburgh, and discussed by Dr. A. Bruce Gill, Philadelphia, and closed by Dr. McCurdy.

"A Demonstration of the Abduction Treatment of Fracture of the Neck of the Femur, by Lantern Slides," was presented by Dr. Royal Whitman, New York, and discussed by Drs. William L. Estes, South Bethlehem; T. Turner Thomas, Philadelphia; Charles E. Thomson, Scranton; John L. Atlee, Lancaster, and closed by Dr. Whitman.

"Acute Dilatation of the Stomach Following Operation," was read by Dr. John J. Gilbride, Philadelphia, and discussed by Dr. Frank Alleman, Lancaster.

Adjourned at 4: 50 p. m., until Thursday, September 26, at 9 a. m.

Thursday Morning, Sept. 26, 1918

The Section was called to order in the Clover Room by the chairman, Dr. Atlee, at 10 a. m.

"The Foot of the American Soldier and Its Care," was read by Lieut.-Col. J. T. Rugh, M. C., U. S. Army, Philadelphia, and discussed by Major E. W. Ryerson, Chicago; Capt. Roades Fayerweather, Baltimore; Dr. William J. Wilkinson, Sellersville, and closed by Colonel Rugh. Major R. Trustall Taylor, M. C., U. S. Army, Baltimore, showed a group of films made under the direction of the Surgeon-General, to be used in teaching.

"Bone and Joint Casualties and Transport Splints" was read by Lieut.-Col. Robert B. Osgood, M. C., U. S. Army, Boston. Major Taylor presented a set of films illustrating splints used by the United States and Allies, in the way of discussion of the paper, which was discussed also by Capt. Roades Fayerweather, Baltimore, and closed by Colonel Osgood.

"The Care of the Amputated in War," was read by Lieut.-Col. David Silver, M. C., U. S. Army, Pittsburgh, and discussed by Capt. Carl C. Yount, Philadelphia; Col. R. B. Osgood, Boston.

Major R. Trustall Taylor, Baltimore, presented films illustrating (1) Selected Foot Film; (2) Splints for Transport; (3) Plaster Peg Leg.

The chairman thanked the men who had come from Washington, D. C., to participate in the program.

Adjourned at 12: 50 p. m.

John L. Atlee, Chairman,
T. Turner Thomas, Secretary.

MINUTES OF THE SECTION ON EYE, EAR, NOSE AND THROAT DISEASES

Tuesday Afternoon, Sept. 24, 1918

The Section on Eye, Ear, Nose and Throat Diseases was called to order at 2 p. m. by the chairman, Dr. Edward Stieren, Pittsburgh, who called attention to Section 1, Chapter II, of the By-Laws which reads that no address or paper shall consume more than ten minutes in its delivery, and that discussion of papers is limited to five minutes. The chairman of the section introduced Dr. H. S. Reger of Jamestown, N. Y., as official stenographer of the section and requested that the privileges of the floor be accorded him, which was granted.

The chairman's address was delivered by Dr. Stieren, while Dr. S. D. Risley occupied the chair.

"Autogenous One-Piece Epithelial Grafts for the Restoration of the Eyelids; with Report of Cases," was read by Dr. Edward B. Heckel, Pittsburgh, and discussed by Drs. William Zentmayer, S. D. Risley, E. A. Shumway, Burton Chance, Philadelphia, and closed by Dr. Heckel.

"Variations in the Clinical Picture of Interstitial Keratitis," was read by Dr. Aaron Brav, Philadelphia, and discussed by Drs. S. D. Risley, Philadelphia; G. E. Dean, Scranton; E. B. Heckel, Pittsburgh, and closed by Dr. Brav.

"The Requisite Attributes of Properly Fitted Spectacles and Eye-Glasses," was read by Dr. Sidney L. Olsho, Philadelphia, and discussed by Drs. Adolph Krebs, Pittsburgh; J. F. Klinedinst, York; L. H. Taylor, Wilkes-Barre; J. W. Croskey, Philadelphia; G. E. Dean, Scranton, and closed by Dr. Olsho.

"Diseases of the Uveal Tract and Their Sequelae," was read by Dr. Samuel D. Risley, Philadelphia, and discussed by Drs. William Zentmayer, Aaron Brav, Philadelphia; E. B. Heckel, Pittsburgh, and closed by Dr. Risley.

"Corneal Corpuscular Activity (Third Paper). A Study of the White Corpuscle as Suggested by the Observance of Its Circulation Through the Cornea," was read by Dr. Joseph E. Willetts, Pittsburgh, and discussed by Dr. Burton Chance, Philadelphia.

"The Operative Treatment of Incomplete Cataract," was read by Dr. John Welsh Croskey, Philadelphia, and discussed by Drs. E. F. Kamerly, Jr., and T. C. Fulton, Philadelphia, and closed by Dr. Croskey.

Adjourned until Wednesday, September 25, at 2 p. m.

WEDNESDAY AFTERNOON, SEPT. 25, 1918

The Section was called to order by the chairman, Dr. Stieren, at 2 p. m.

The nominations for officers for the ensuing year prepared by the Executive Committee were read by the secretary, Dr. Krebs, and the following officers were duly elected: Chairman, Dr. Fielding O. Lewis, Philadelphia; secretary, Dr. Luther C. Peter, Philadelphia.

The secretary read a letter from Dr. William Campbell Posey, Philadelphia, regretting his inability to be present on account of illness. He read also a letter from Dr. J. Smith DeMuth, Pittsburgh. The chairman called attention to instructions from the Committee on Scientific Work, that a resolution had been adopted to the effect that when members of the society were called into government service in the interim between the printing of the program and the convening of the society, their papers should be read; therefore, Dr. Posey's paper cannot be read but Dr. DeMuth's will be read by the secretary.

"Disciform Keratitis," was read by Dr. Adolph Krebs, Pittsburgh; discussed by Dr. E. B. Heckel, Pittsburgh, and closed by Dr. Krebs.

"Plastic Surgery of the Face and Orbit in Relation to War Injuries," was read by Dr. Hunter W. Scarlett, Philadelphia, illustrated by numerous lantern slides, and discussed by Drs. J. B. Roberts, Burton Chance, G. E. deSchweinitz, Philadelphia; G. B. Jobson, Franklin, and closed by Dr. Scarlett.

"Ocular Evidences of Pathology of the Ethmoidal Labyrinth," was read by Dr. Hunter H. Turner, Pittsburgh.

"Diagnosis of Disease of the Accessory Sinuses," by Dr. J. Smith DeMuth, Pittsburgh, was read by the secretary.

The preceding two papers were discussed by Drs. Ralph Butler, B. A. Randall, S. D. Risley, W. A. Hitschler, Philadelphia; J. R. Roebuck, Lancaster; Edward Stieren, Pittsburgh, and closed by Dr. Turner.

"Practical Deductions from Successes and Failures in the Treatment of Ear, Nose and Throat Diseases," was read by Dr. J. Leslie Davis, Philadelphia, and discussed by Dr. F. N. Emmert, Chambersburg.

Adjourned until Thursday, September 26, at 9 a. m.

THURSDAY MORNING, SEPT. 26, 1918

The section was called to order by the chairman, Dr. Stieren, at 9 a. m.

"The Technic of Nasal Cleansing," was read by Dr. William A. Hitschler, Philadelphia, and discussed by Drs. Kate W. Baldwin, Philadelphia; L. H. Taylor, Wilkes-Barre, and closed by Dr. Hitschler.

"Duration of Bronchoscopy and Esophagoscopy, Based on an Experience of 650 Cases," was read by Dr. Chevalier Jackson, Philadelphia, and discussed by Dr. F. J. Bishop, Scranton.

"Esophageal Stenosis; Report of Cases," was read by Dr. Ellen J. Patterson, Pittsburgh, and discussed by Drs. Chevalier Jackson, Philadelphia, and H. S. Heger, Jamestown, N. Y.

"The Chronic Tonsil," was read by Dr. Nelson S. Weinberger, Sayre.

"Tonsillectomy Under Local Anesthesia," was read by Dr. George B. Jobson, Franklin.

The preceding two papers were discussed by Drs. C. C. Eves, W. A. Hitschler, Philadelphia; R. E. Brenneman, Pittsburgh; G. R. S. Corson, Pottsville; J. F. Culp, Harrisburg; W. H. Sears, Huntingdon, and closed by Drs. Weinberger and Jobson.

A motion duly made and seconded was passed carrying a rising vote of thanks to the officers of this section for the able manner in which the meeting was conducted, after which meeting was adjourned.

EDWARD STIEREN, Chairman,
ADOLPH KREBS, Secretary.

MINUTES OF THE SECTION ON PEDIATRICS

TUESDAY AFTERNOON, SEPT. 24, 1918

The Section on Pediatrics convened in the Bellevue-Stratford Hotel, Sept. 24, 1918, and was called to order by the chairman, Dr. Percival J. Eaton, Pittsburgh, shortly after 2 p. m.

The chairman's address was delivered by Dr. Eaton.

"The Fallacies of the Methods of Giving Colonic Irrigations in Children," by Drs. H. Brooker Mills and Gustavus C. Bird, Philadelphia, was read by Dr. Mills, and discussed by Drs. Percival J. Eaton, Pittsburgh; J. O. Arnold, Philadelphia, and closed by Dr. Mills.

"Weaning," was read by Dr. Edwin E. Graham, Philadelphia, and discussed by Drs. Walter Chrystie, Bryn Mawr; L. S. Cogill, H. Brooker Mills, Philadelphia, and closed by Dr. Graham.

The Section received with regret the announcement of the chairman that, owing to the illness of Dr. Harry Lowenburg, Philadelphia, his paper and moving picture film on "Pyloric Stenosis" would not be given.

"Pyloric Stenosis, Illustrated by Roentgen Rays," was read by Dr. Charles M. Woodburn, Towanda.

"Hirschsprung's Disease," was read by Dr. Walter Lester Carr, New York.

The preceding two papers were discussed by Drs. J. P. Crozer Griffith, John B. Deaver, Philadelphia; Donald Guthrie, Sayre, and closed by Drs. Woodburn and Carr.

The meeting was then adjourned until Wednesday afternoon, September 25, at 2 p. m.

WEDNESDAY AFTERNOON, SEPT. 25, 1918

The Section was called to order by the chairman, Dr. Eaton, shortly after 2 p. m.

The following report was made by Dr. Samuel McC. Hamill, chairman of the Executive Committee: "The report will be very brief. I am pleased to place before you for nomination for chairman of the Section on Pediatrics, Dr. Charles H. Miner of Wilkes-Barre; for secretary, Dr. William N. Bradley of Philadelphia.

"The Executive Committee desires to urge on the members of this Section the very great importance of the use of the right kind of judgment in deciding the question as to whether or not they shall go into military service. There is a tendency on the part of those in the service to put pressure on those who are not. If men feel that they have just cause to remain out of the service, we believe they should do so. We feel that medical service is absolutely essential, and would like to recommend for the consideration of the Section on Pediatrics that a motion be passed that the man who is solely devoting his time and energy to pediatrics should not enter the service, because he can render a higher service to his country by remaining at home and making certain sacrifices along the lines of his practice, contributing something perhaps to the Child Welfare Association. Your opportunity will be given you to do work of this kind. A man should not use this as an excuse to stay out of military service, but we believe it is just if he is engaged in this particular line of practice. There is nothing else to be considered today."

It was moved and seconded that the report of the Executive Committee be adopted as read. The motion was duly carried. Dr. Eaton announced that this of course carried with it the election of those who were nominated by the Executive Committee, and introduced as chairman for the coming year, Dr. Charles H. Miner.

Dr. Miner: *"Members of the Section:* I am very much surprised and pleased that this honor has been conferred on me. I do not at all deserve this office, but I will do my best and hope we can have a very good program for the meeting at Harrisburg. I have had a little experience on sections, and trust it will be of some assistance in doing the work this year. We all know of the national scope of the movement in regard to child hygiene. This work is carried out in a more vigorous way in Pennsylvania than in any other state, and we believe that the action of the State Department of Health is a very great assistance in this connection. It has been suggested that we put before the Section a resolution approving of the plan adopted in Pennsylvania."

Such a resolution was then presented before the Section, and the business meeting closed by the following remarks from Dr. Eaton.

Dr. Eaton: "It has been moved and seconded that this Section endorse the organization and plan of coöperation of the Division of Child Hygiene of the State Department of Health with the Men and Women's Committees of Child Hygiene of the Council of National Defense. This strikes me as being very opportune and very important, and I think the endorsement of the Medical Society of the State of Pennsylvania will have value in adding to the movement."

The motion was then put before the Section and carried.

"Protecting Our Third Line of Defense, Our Babies," was presented by Drs. L. S. Cogill and Berta Meine, Philadelphia, and discussed by Drs. Samuel McC. Hamill, Edwin E. Graham, William N. Bradley, Philadelphia; Joseph E. Ratajski, Mt. Carmel, and closed by Dr. Cogill.

"The Use of the Laboratory as an Aid in the Treatment of Diabetes," was read by Dr. Leon Jonas, Philadelphia, and discussed by Dr. J. N. Hunsberger, Norristown, and closed by Dr. Jonas.

"Better Methods in the Immediate Attentions to the Newborn," was read by Dr. Jesse O. Arnold, Philadelphia, and discussed by Drs. V. D. Thomas, Pittsburgh; Herbert A. Bostock, Norristown; H. Brooker Mills, Philadelphia, and closed by Dr. Arnold.

"Backward, Nervous and Delicate Children; Their Treatment and Management," was read by Dr. E. Bosworth McCready, Pittsburgh, and discussed by Drs. J. Madison Taylor, Charles E. deM. Sajous, Prof. Norbert J. Melville, Philadelphia, and closed by Dr. McCready.

Adjourned until Thursday, September 26, at 9 a. m.

Thursday Morning, Sept. 26, 1918

The Section was called to order by the chairman, Dr Eaton, about 9:30 a. m.

"A Consideration of the Most Common Rectal Diseases in Children," was read by Dr. Herman A. Brav, Philadelphia, and discussed by Drs. William M. Beach, Pittsburgh; John J. Gilbride, William N. Bradley, Philadelphia; P. R. Cleaver, Johnstown, and closed by Dr. Brav.

"Studies in the Serum Treatment of Epidemic Cerebrospinal Meningitis," was read by Dr. John A. Kolmer, Philadelphia, and discussed by Drs. Samuel S. Woody, Philadelphia; Herbert E. Hall, Uniontown, and closed by Dr. Kolmer.

"Appendicitis in Childhood," was read by Dr. John J. Gilbride, Philadelphia, and discussed by Drs. Harvey F. Smith, Harrisburg; John A. Kolmer, William N. Bradley, Philadelphia; H. J. Cartin, Johnstown, and closed by Dr. Gilbride.

"Vernal Conjunctivitis; Its Treatment by Applications of Radium," was read by Dr. Edward A. Shumway, Philadelphia, and discussed by Drs. Edward B. Heckel, Pittsburgh; John A. Kolmer, William N. Bradley, Philadelphia, and closed by Dr. Shumway.

Dr. John F. Sinclair being absent, his paper, "Some Influences of Diet Affecting the Second Dentition," was read by the secretary of the Section, Dr. Bradley, discussed by Dr. Robert K. Rewalt, Williamsport, and closed by Dr. Bradley.

Dr. Samuel McC. Hamill moved that a vote of thanks be given the retiring chairman and secretary for the very efficient way in which they prepared the program and for the successful carrying out of the splendid program. The motion was carried, and the chairman, Dr. Eaton, closed the meeting with the following remarks:

Dr. Eaton: "It has been a very great pleasure both to Dr. Bradley and myself to have been connected with the Section this year. Dr. Bradley deserves all the credit for this meeting, because he has done practically all the work. In closing the meeting, I want to ask each one here, and through you as many of the men and women interested in pediatrics in this state, to take a greater interest this year. The Section has grown, and we want it to grow as much as in the last two years, in strength and interest, and we believe that it will be considered one of the most important of all the Sections of the State Society. Again, I want to thank the members of this Section for the interest they have shown this year. The meeting now stand adjourned."

Percival J. Eaton, Chairman,
William N. Bradley, Secretary.

MINUTES OF THE CONFERENCE OF SECRETARIES

The Thirteenth Annual Banquet and Conference of Secretaries of the component county societies of the Medical Society of the State of Pennsylvania, were held at Kugler's Restaurant, Philadelphia, Tuesday, September 24. In the absence of the chairman and vice chairman the meeting was called to order at 5:10 p. m. by Dr. Joseph Scattergood, West Chester, a member of the Executive Committee.

The subject of "Health Insurance" was presented by Dr. J. B. McAlister, Harrisburg, Member of the Commission appointed by the last Legislature to investigate health insurance and report to the 1919 Legislature; Dr. Walter F. Donaldson, Pittsburgh, Retiring President, and Dr. Frederick L. VanSickle, President of the Medical Society of the State of Pennsylvania.

Papers on "County Society Dues and the Per Capita Assessment for 1919," were read by Dr. William H. Mayer, Pittsburgh, Secretary of Allegheny County Society; Dr. Jesse L. Lenker, Harrisburg, Secretary of Dauphin County Society, and Dr. Jay B. F. Wyant, Kittanning, Secretary of Armstrong County Society.

Dr. Scattergood appointed as a Nominating Committee Drs. E. S. Buyers, Norristown; A. F. Myers, Blooming Glen, and G. R. S. Corson, Pottsville, secretaries of Montgomery, Bucks, and Schuylkill County Societies, respectively.

The meeting then adjourned and dinner was served, after which the report of the Nominating Committee was presented by its chairman, Dr. Buyers, as follows:

Your Nominating Committee desires to make the following recommendations: Chairman, Dr. Myers W. Horner, Mt. Pleasant, Secretary of Westmoreland County Society; vice chairman, Dr. Norman C. Mills, Eleanor, Secretary of Jefferson County Society; secretary, Dr. Joseph Scattergood, West Chester, Secretary of Chester County Society; Executive Committee, Dr. Malcolm C. Guthrie, Wilkes-Barre, Secretary of Luzerne County Society; Dr. Jacob A. Trexler, Lehighton, Secretary of Carbon County Society; Dr. Herbert L. McKown, Tunkhannock, Secretary of Wyoming County Society.

The presentation of papers was then resumed and "What Can the County Society Do for Its Members in the Service," was presented by Dr. William T. Sharpless, West Chester, Editor of Chester County Reporter; and Dr. John M. Quigley, Clearfield, Secretary of Clearfield County Society.

"The County Secretary," was presented by Dr. Floyd M. Crandall, Secretary of the Medical Society of the State of New York.

A general discussion on the subjects presented then took place by Dr. A. F. Myers, Blooming Glen; Miss Elizabeth McShane, Assistant Secretary of the Health Commission; Drs. J. B. Carrell, Hatboro; J. N. Hunsberger, Norristown, and closed by Drs. McAlister and Crandall.

On motion, duly seconded, those recommended by the Nominating Committee as officers for the ensuing year, were elected.

Adjourned at 8 p. m.

Joseph Scattergood, Acting Chairman,
Myers W. Horner, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES ANSWERING ROLL CALL

Adams County Society.—Eugene Elgin.

Allegheny County Society.—William H. Mayer, Secretary; Adolph Koenig, Edward B. Heckel, John M. Thorne, Joseph E. Willetts.

Armstrong County Society.—Frederick C. Monks.

Berks County Society.—H. Philemon Brunner.

Blair County Society.—Charles F. McBurney, Secretary; Gerald D. Bliss.

Bradford County Society.—Nelson S. Weinberger.

Bucks County Society.—Alfred E. Fretz.

Butler County Society.—James L. Christie.

Cambria County Society.—George W. Wagoner, Latshaw L. Porch.

Carbon County Society.—Alexander Armstrong.

Center County Society.—James L. Seibert, Harvey S. Braucht.

Chester County Society.—John H. Burkartmaier.

Clearfield County Society.—John M. Quigley, Secretary; Samuel J. Waterworth.

Crawford County Society.—Glennis E. Humphrey.

Dauphin County Society.—H. Hershey Farnsler, President; John B. McAlister, J. Wesley Ellenberger.

Delaware County Society.—G. Victor Janvier, President; Adam J. Simpson.

Elk County Society.—Samuel G. Logan.

Erie County Society.—Fred Fisher, Jr., Chester H. McCallum.

Fayette County Society.—James E. Van Gilder, Secretary.

Franklin County Society.—Leslie M. Kauffman.

Greene County Society.—Rufus E. Brock, Thomas N. Millikin.

Huntingdon County Society.—Harry B. Fetterhoof, President; Cloy G. Brumbaugh.

Indiana County Society.—Frank F. Moore, Vice President.

Jefferson County Society.—Norman C. Mills, Secretary.

Lackawanna County Society.—Frederick J. Bishop, Secretary; William Rowland Davies, John B. Grover.

Lancaster County Society.—Tobias C. Shookers, Secretary; Frank G. Hartman, J. Paul Roebuck.

Lawrence County Society.—William A. Womer, Secretary.

Luzerne County Society.—Malcolm C. Guthrie, Secretary; Elmer L. Meyers, Lawrence H. Smith.

Lycoming County Society.—Walter S. Brenholtz, Secretary; Joseph W. Albright.

Montgomery County Society.—Winfred J. Wright, President; J. Newton Hunsberger.

Northampton County Society.—William P. O. Thomason, President; William L. Estes, William H. McIlhaney.

Philadephia County Society.—Frank C. Hammond, President; J. Montgomery Baldy, John D. McLean, John W. West, Martha Tracy, Wilmer Krusen, Paul J. Pontius, William S. Wray, George A. Knowles, L. Webster Fox, J. Allen Jackson, Albert E. Blackburn.

Schuylkill County Society.—George R. S. Corson, Secretary; William T. Williams.

Union County Society.—Ralph Steans, President.

Warren County Society.—Harry W. Mitchell.

Washington County Society.—Charles C. Cracraft, Secretary; William Douglass Martin.

Westmoreland County Society.—James P. Strickler.

Wyoming County Society.—Kennard J. French, President; Herbert L. McKown.

York County Society.—George E. Holtzapple, Alfred A. Long. Presidents.—Walter F. Donaldson, Frederick L. Van Sickle.

NONVOTING MEMBERS WHO WERE NOT SEATED FROM THEIR RESPECTIVE COUNTY SOCIETIES

C. L. Stevens, Secretary; Donald Guthrie, James Johnston, Spencer M. Free, Irwin J. Moyer, Harry W. Albertson, Jay B. F. Wyant, Trustees.

MEMBERS IN ATTENDANCE AT THE SESSION IN PHILADELPHIA, SEPT. 23, 24, 25 AND 26, 1918

SECTION ON MEDICINE

Adams County Society—E. Elgin, East Berlin; N. C. Trout, Fairfield.

Allegheny County Society—L. F. Ankrim, J. G. Burke, H. E. Clark, T. Diller, G. W. Grier, S. R. Haythorn, J. I. Johnston, C. R. Jones, O. Klotz, A. Koenig, J. A. Lichty, C. B. McAboy, E. E. Mayer, W. H. Mayer, I. J. Moyer, R. P. Moyer, I. M. Pochapin, L. L. Schwartz, J. M. Thorne, J. W. Worrell, Pittsburgh.

Berks County Society—J. S. Borneman, Boyertown; E. R. DeLong, Geiger's Mills; H. U. Miller, Mt. Penn; J. L. Bower, Philadelphia; C. W. Bachman,

W. E. Fisher, R. A. Harding, C. S. Keiser, G. W. Overholser, F. G. Runyeon, I. G. Shoemaker, Reading; S. S. Hill, Wernersville.

Blair County Society — G. D. Bliss, R. J. Hillis, A. S. Kech, C. F. McBurney, Altoona.

Bradford County Society—C. L. Stevens, Athens; T. B. Johnson, Jr., Towanda.

Bucks County Society — A. F. Myers, Blooming Glen; E. L. Smith, Hatboro (Montg. Co.); C. B. Smith, Newtown; W. H. M. Imhoff, Norristown (Montg. Co.); G. M. Grim, Ottsville; A. E. Fretz, Sellersville.

Butler County Society—R. J. Grossman, Butler; J. L. Christie, Conoquenessing.

Cambria County Society—E. T. Ealy, Barnesboro; O. J. Shank, Windber (Somer. Co.).

Carbon County Society—J. E. Waaser, East Mauch Chunk; H. T. Hoffmeier, Mauch Chunk; A. Armstrong, White Haven (Luzerne Co.).

Center County Society—J. L. Seibert, Bellefonte; G. S. Frank, Millheim; H. S. Braucht, Spring Mills.

Chester County Society—J. H. Burkartmaier, Avondale; S. H. Scott, Coatesville; L. T. Bremerman, Downingtown; D. E. Hutchison, East Downingtown; H. T. Smith, Elverson; J. R. Maxwell, Parkesburg; C. J. Brower, Spring City; P. C. Hoskins, West Chester.

Clearfield County Society—J. P. Frantz, J. M. Quigley, Clearfield; H. O. King, Curwensville; R. L. Williams, Houtzdale; R. Jackson, Osceola Mills; G. B. Shivery, Woodland.

Clinton County Society — S. J. McGhee, Lock Haven; C. L. Fullmer, Renovo.

Columbia County Society—E. A. Alleman, Berwick; E. Everett, Millville.

Crawford County Society—G. E. Humphrey, Cambridge Springs.

Dauphin County Society—J. C. DeVenney, J. W. Ellenberger, D. S. Funk, J. L. Lenker, J. B. McAlister, H McGowan, C. R. Phillips, J. M. J. Raunick, R. F. L. Ridgway, Harrisburg; W. J. Middleton, J. R. Plank, W. S. Russell, D. B. Traver, Steelton.

Delaware County Society—M. A. Neufeld, A. J. Simpson, Chester; G. V. Janvier, Lansdowne; L. Gottschalk, Marcus Hook; J. H. Fronfield, Media; J. H. Sherman, Ridley Park.

Erie County Society—D. H. Strickland, G. M. Studebaker, T. P. Tredway, Erie.

Fayette County Society—H. J. Bell, Dawson; J. E. VanGilder, Uniontown.

Franklin County Society—J. W. Croft, Waynesboro.

Greene County Society—T. N. Millikin, Waynesburg.

Huntingdon County Society—R. H. Moore, Huntingdon; C. B. Bush, Philadelphia.

Jefferson County Society—N. C. Mills, Eleanor; J. H. Murray, Punxsutawney.

Lackawanna County Society—E. T. Davies, Old Forge; J. B. Grover, Peckville; J. C. Bateson, N. E. Newbury, J. C. Wahl, Scranton.

Lancaster County Society—J. F. Mentzer, Ephrata; H. G. Barsumian, W. D. Blankenship, F. G. Hartman, Lancaster; L. M. Bryson, Paradise; W. J. Steward, Pennhurst; J. A. Smith, Philadelphia.

Lawrence County Society—L. H. Gageby, W. A. Womer, New Castle.

Lebanon County Society—J. C. Bucher, E. H. Gingrich, F. A. Rutherford, Lebanon.

Lehigh County Society—F. S. Boyer, W. H. Hartzell, D. H. Parmet, H. T. M. Ritter, Allentown; C. H. Muschlitz, Slatington.

Luzerne County Society—W. F. Davison, Dorranceton; A. Kaufman, Wilkes-Barre.

Lycoming County Society — T. K. Wood, Muncy; W. S. Brenholtz, W. E. Glosser, H. G. McCormick, Williamsport.

McKean County Society—J. Johnston, H. I. Woodhead, Bradford; F. C. Johnson, Mont Alto (Franklin Co.).

Mifflin County Society—C. J. Stambaugh, Reedsville.

Montgomery County Society—G. R. Irwin, Bridgeport; J. H. Seiple, Center Square; K. S. McK. Hall, Fort Washington; A. L. Dewees, Haverford; E. S. Buyers, F. P. Easton, J. L. Eisenberg, R. Fabbri, B. F. Hubley, J. N. Hunsberger, R. Knipe, S. M. Miller, J. M. Peterson, H. C. Podall, Norristown; W. J. Wright, Skippack; N. H. Rahn, Souderton; W. Z. Anders, Trappe.

Montour County Society—G. B. M. Free, Danville.

Northampton County Society — N. W. Reichard, Bangor; W. A. Finady, Bethlehem; J. E. Fretz, A. L. Kotz, W. H. McIlhaney, A. D. Reagan, W. P. O. Thomason, F. E. Ward, Easton; C. E. Beck, Portland; H. D. Heller, T. M. Uhler, Philadelphia; J. E. Longacre, Weaversville.

Perry County Society — A. D. VanDyke, Renovo (Clinton Co.).

Philadelphia County Society—K. Schaffle, Camp Hill (Cumb. Co.); B. F. Royer, Harrisburg (Dauph. Co.); J. S. Neff, Narberth (Montg. Co.); A. K. Petery, Norristown; H. S. Anders, J. M. Anders, J. W. Anderson, G. H. Atkins, F. K. Baker, H. Beates, Jr., A. Bernheim, M. Bernstein, A. E. Blackburn, N. Blumberg, M. H. Bochroch, J. A. Bolin, L. N. Boston, D. R. Bowen, H. P. Boyer, T. B. Bradley, A. P. Brubaker, H. G. Bruner, J. E. B. Buckenham, C. W. Burr, A. A. Cairns, A. Callahan, W. Carroll, L. S. Chapin, J. P. Chapman, A. J. Cohen, S. S. Cohen, D. T. Cooke, O. Copp, E. B. Custer, J. C. DaCosta, Jr., J. Daland, F. X. Dercum, M. L. Diez, J. C. Doane, E. L. Drake, W. Drummond, J. H. Dubbs, A. G. Ellis, W. Evans, C. H. Ewing, S. C. Falls, R. Faries, J. Farley, F. A. Faught, E. B. Finck, I. L. J. Fitzpatrick, J. C. Flynn, K. T. Fricka, E. H. Funk, P. Fusco, G. D. Fussell, M. H. Fussell, S. W. Gadd, S. P. Gerhard, R. M. Goepp, H. Golden, W. H. Good, A. Gordon, J. W. Groff, A. B. Hall, W. T. Hamilton, C. H. Harbaugh, H. A. Hare, R. Harrison, M. B. Hartzell, G. D. Heist, A. B. Hirsh, C. J. Hoban, J. A. Horne, M. A. Huneker, H. M. Hunsicker, S. C. Ingraham, J. A. Jackson, H. L. Jameson, W. T. Johnson, M. J. Karpeles, I. Kaufman, E. W. Kelsey, H. S. Kinne, A. Klein, H. W. Kline, P. P. Klopp, G. A. Knowles, C. A. Koder, H. A. Lacy, R. W. Lathrop, J. D. Lehman, J. Levy, J. H. Lloyd, T. McCrae, N. S. McDowell, A. McGinnis, J. D. McLean, M. Markowitz, M. K. Meyers, E. W. Michener, C. K. Mills, S. Mitterling, E. J. Morris, P. F. Moylan, J. J. Mullowney, J. A. O'Connell, R. V. Patterson, E. L. Peck, C. S. Potts, J. Propper, A. R. Rainear, E. P. Reiff, J. J. Repp, E. G. Rhoads, D. Riesman, W. D. Robinson, J. F. Roderer, A. E. Roussel, A. I. Rubenstone, W. F. Ruff, M. P. S. Rupert, C. E. deM. Sajous, S. A. Savitz, J. F. Schamberg, B. A. Schisler, M. G. K. Schetky, B. F. Scholl, I. R. Schoonmaker, W. B. Scull, H. C. Shurtleff, J. H. Small, R. L. Smith, W. G. Spiller, L. Spitz, A. Sterling, F. E. Stewart, E. R. Stone, C. F. Taylor, J. M. Taylor, A. N. Tomlin, M. Tracy, P. A. Trau, G. B. Tullidge, J. P. Turner, J. F. Ulman, J. T. Walker, E. T. Ward, A. P. Weaver, T. H. Weisenburg, C. H. Wells, E. B. Wenner, M. Wenzel, J. W. West, W. B. Whetstone, C. Y. White, R. P. Wilkinson, S. Wolfe, H. C. Wood, Jr., F. Woodbury, C. G. Yaeger, G. C. Yeager, J. Zettlemoyer, Philadelphia.

Schuylkill County Society—J. F. Marshall, Ashland; J. J. Dailey, McAdoo; W. T. Williams, Mt. Carmel (Northum. Co.).

Snyder County Society—G. E. Hassinger, Middleburg.

Somerset County Society—J. R. Hemminger, Somerset; G. C. Berkheimer, Windber.

Susquehanna County Society—J. G. Wilson, Clarks Summit (Lacka. Co.).

Union County Society—R. Steans, Lewisburg.

Warren County Society—R. B. Mervine, Sheffield; H. W. Mitchell, P. G. Weston, Warren.

Washington County Society—J. N. Sprowls, Claysville; W. D. Martin, Dunns Station, R. D. 2; C. T. Graves, Monongahela; S. A. Ruben, C. R. Weirich, Washington.

Westmoreland County Society—W. J. K. Kline, Greensburg; J. W. Barkley, Ligonier; J. P. Strickler, Scottdale.

Wyoming County Society—K. J. French, Factoryville; H. L. McKown, Tunkhannock.

York County Society—T. A. Lawson, Dallastown; J. C. May, Manchester; M. L. Barshinger, J. H. Comroe, C. W. Eisenhower, I. C. Gable, G. E. Holtzapple, A. A. Long, C. Rea, F. J. Snyder, York.

SECTION ON SURGERY

Allegheny County Society—N. H. Bennett, R. H. Boggs, W. H. Cameron, Giacomo Conti, W. F. Donaldson, W. P. Hughes, S. L. McCurdy, J. W. Macfarlane, H. A. Miller, G. C. Weil, E. A. Weiss, Pittsburgh; R. E. Brenneman, David Silver, Washington, D. C.; F. M. Storer, Wilkinsburg.

Berks County Society—I. H. Hartman, G. W. Kehl, C. G. Loose, Reading.

Blair County Society—J. D. Findley, W. H. Howell, Altoona; W. A. Nason, Roaring Spring.

Bradford County Society—D. Guthrie, Sayre.

Bucks County Society—H. Pursell, Bristol; W. J. Wilkinson, Sellersville.

Butler County Society—R. B. Greer, Butler.

Cambria County Society—P. R. Cleaver, C. B. Millhoff, L. L. Porch, G. W. Wagoner, Johnstown.

Chester County Society—C. J. Roberts, Berwyn; D. P. Rettew, C. H. Stone, J. Taylor, Coatesville; J. Scattergood, West Chester.

Clearfield County Society—J. W. Gordon, S. J. Waterworth, Clearfield.

Columbia County Society—J. W. Bruner, Bloomsburg.

Dauphin County Society—H. F. Gross, H. F. Smith, Harrisburg; E. R. Whipple, Steelton.

Delaware County Society—W. E. Egbert, J. L. Forwood, Chester.

Elk County Society—S. G. Logan, Ridgway.

Erie County Society—F. Fisher, Jr., C. H. McCallum, C. G. Strickland, Erie.

Franklin County Society—L. M. Kauffman, Kauffman.

Greene County Society—R E. Brock, Waynesburg.

Huntingdon County Society—C. G. Brumbaugh, H. B. Fetterhoof, J. M. Johnston, Huntingdon; C. Campbell, Petersburg.

Indiana County Society—F. F. Moore, Homer City.

Jefferson County Society—T. R. Williams, Cynwyd (Montg. Co.); S. M. Free, Dubois (Clearfield Co.).

Lackawanna County Society—T. Monie, Archbald; F. L. VanSickle, Olyphant; H. W. Albertson, W. R. Davies, C. E. Thomson, J. N. White, M. J. Williams, Scranton.

Lancaster County Society—F. Alleman, J. L. Atlee, P. P. Breneman, T. C. Shookers, Lancaster.

Lebanon County Society—W. R. Roedel, Lebanon.

Lehigh County Society—E. W. Feldhoff, F. A. Fetherolf, W. A. Hausman, Jr., C. D. Schaeffer, R. L. Schaeffer, Allentown.

Luzerne County Society—W. H. Berge, Avoca; L. H. Smith, Hazleton; S. A. Ruffner, S. H. Rynkiewicz, H. B. Wilcox, Kingston; C. W. Prevost, Pittston; W. H. Corrigan, H. B. Gibby, M. C. Guthrie, J. T. Howell, G. T. Matlack, S. P. Mengel, E. L. Meyers, E. Richards, J. B. Tobias, Wilkes-Barre.

Lycoming County Society—R. B. Hayes, Jersey Shore; J. W. Albright, Muncy; G. F. Bell, H. J. Donaldson, G. B. Klump, Williamsport.

McKean County Society—E. O. Kane, Kane.

Mifflin County Society—J. A. C. Clarkson, A. S. Harshberger, Lewistown.

Montgomery County Society—W. McKenzie, Conshohocken; H. H. Drake, P. Y. Eisenberg, W. G. Miller, G. W. Stein, J. K. Weaver, Norristown; J. E. Gotwals, Phoenixville (Chester Co.); O. C. Heffner, J. E. Porter, Pottstown.

Montour County Society—H. L. Foss, Danville.

Northampton County Society—H. J. Schmoyer, Bethlehem; P. E. Schwarz, Easton; W. L. Estes, D. K. Santee, South Bethlehem.

Northumberland County Society—J. E. Ratajski, Mt. Carmel; G. W. Reese, Shamokin.

Philadelphia County Society—F. R. Sprague, Bryn Mawr (Montg. Co.); G. D. Morton, Honeybrook (Chester Co.); L. H. Adler, Jr., J. C. Applegate, J. M. Asher, K. W. Baldwin, J. M. Baldy, C. S. Barnes, M. Behrend, F. S. Bowman, R. Boyer, H. A. Brav, H. M. Christian, J. G. Clark, W. L. Clark, T. G. Coates, A. Cohn, A. J. Davidson, H. C. Deaver, J. B. Deaver, J. L. Dukes, H. A. Duncan, J. M. Endres, J. D. Farrar, J. M. Fisher, M. K. Fisher, C. Foulkrod, M. M. Franklin, H. G. Fretz, R. F. Gerlach, J. J. Gilbride, A. B. Gill, J. H. Girvin, S. Goldberg, S. B. Goldsmith, R. Goodman, A. W. Hammer, F. C. Hammond, L. J. Hammond, H. Hanna, H. J. Hartz, A. Heineberg, W. S. Higbee, C. S. Hirsch, D. T. Huston, L. H. Jacob, W. W. Keen, E. R. Kirby, N. L. Knipe, W. Krusen, M. V. Leof, S. H. Lockrey, D. Longaker, C. B. Longenecker, A. M. McAllister, H. P. McAniff, S. McClary, 3d, J. Q. McDougald, J. A. McGlinn, R. T. McKenzie, C. Macfarlane, F. H. Maier, C. F. Martin, G. B. Massey, M. T. Miller, E. E. Montgomery, G. P. Müller, T. R. Neilson, W. E. Parke, P. S. Pelouze, G. E. Pfahler, J. B. Roberts, J. J. Robrecht, M. J. Rochelle, J. T. Rugh, J. T. Schell, H. E. Schock, G. E. Shoemaker, G. W. Sholler, C. E. Smith, C. D. Smith, D. A. Smith, I. P. Strittmatter, B. A. Thomas, T. T. Thomas, S. E. Tracy, M. P. Warmuth, M. E. Vogt, A. B. Webster, F. White, A. D. Whiting, F. R. Widdowson, H. A. Wilson, A. C. Wood, W. S. Wray, J. K. Young, Philadelphia; W. A. Sawyer, Upper Darby (Del. Co.).

Schuylkill County Society—E. E. Shifferstine, Coaldale; J. C. Gallagher, Shenandoah.

Sullivan County Society—G. C. Swope, Mildred.

Susquehanna County Society—H. D. Washburn, Susquehanna.

Washington County Society—J. C. Kelso, Canonsburg; C. B. Wood, Monongahela.

Westmoreland County Society—M. W. Horner, Mt. Pleasant.

York County Society—A. C. Wentz, Hanover; G. W. Bahn, Spring Grove; W. F. Bacon, York.

SECTION ON EYE, EAR, NOSE AND THROAT DISEASES

Allegheny County Society—A. R. Hampsey, E. B. Heckel, A. Krebs, J. H. McCready, J. C. Markel, E. J. Patterson, E. Stieren, H. H. Turner, E. S. Weimer, J. E. Willetts, Pittsburgh.

Armstrong County Society—J. B. F. Wyant, Kittanning.

Berks County Society—F. W. Frankhauser, Reading.

Blair County Society—S. P. Glover, Altoona; D. W. Davis, Six Mile Run (Bedford Co.).

Bradford County Society—N. S. Weinberger, Sayre.

Cambria County Society—L. M. Gurley, Johnstown.

Carbon County Society—C. J. Kistler, Lehighton.

Columbia County Society—J. H. Bowman, Berwick.

Dauphin County Society—J. F. Culp, H. H. Farnsler, Harrisburg.

Delaware County Society—C. I. Stiteler, Chester.

Franklin County Society—F. N. Emmert, Chambersburg.

Huntingdon County Society—W. H. Sears, Huntingdon.

Lackawanna County Society—F. J. Bishop, G. E. Dean, F. P. Hollister, Scranton.

Lancaster County Society—J. P. Roebuck, Lancaster.

Lebanon County Society—S. Z. Shope, Harrisburg (Dauph. Co.).

Lehigh County Society—J. Lear, Allentown; O. C. Reiche, Hazleton (Luz. Co.).

Luzerne County Society—J. E. Scheifly, Kingston; O. F. Kistler, L. H. Taylor, Wilkes-Barre.

Lycoming County Society—J. C. Brown, W. F. Kunkle, Williamsport.

Monroe County Society—W. L. Angle, East Stroudsburg.

Montgomery County Society—W. J. Watson, Cheltenham; H. P. Lakin, Lansdale; F. C. Parker, Norristown.

Northampton County Society—P. H. Kleinhans, Bethlehem; T. E. Swan, Easton.

Northumberland County Society—L. E. Schoch, Shamokin.

Philadelphia County Society—L. F. Appleman, P. L. Balentine, C. C. Biedert, A. Brav, N. M. Brinkerhoff, C. S. Brown, F. K. Brown, M. Buchanan, L. J. Burns, M. F. Butler, R. Butler, T. J. Byrne, B. Chance, J. S. Cohen, J. W. Croskey, T. R. Currie, J. L. Davis, W. H. Deardorff, R. H. Dengler, H. M. Dougherty-Trexler, C. C. Eves, P. Fischelis, L. W. Fox, J. S. Fritch, T. C. Fulton, E. M. Gerlach, R. E. Getelman, H. L. Gowens, C. P. Grayson, J. M. Griscom, W. H. L. Hale, H. F. Hansell, C. R. Heed, W. A. Hitschler, T. B. Holloway, D. N. Husik, C. Jackson, G. E. Johnson, E. F. Kamerly, Jr., A. S. Kaufman, F. R. Keating, B. F. Kehler, J. C. Knipe, M. G. Knowles, F. Krauss, O. L. Latchford, G. A. Lawrence, L. Lehrfeld, L. F. Love, A. L. McKinley, F. B. Margolin, G. M. Marshall, L. E. Marter, H. C. Masland, O. F. Mershon, E. B. Miller, C. C. Moore, S. W. Newmayer, H. J. Off, S L. Olsho, L. C. Peter, P. J. Pontius, M. Radcliffe, B. A. Randall, G. O. Ring, S. D. Risley, J. C. Rommel, J. M. Rosenthal, P. J. Sartain, H. W. Scarlett, G. E. deSchweinitz, G. H. Severs, E. A. Shumway, L. Simcox, J. Sinexon, J. M. Slaymaker, S. McC. Smith, L. S. Somers, N. P. Stauffer, S. R. Stirling, F M. Strouse, H. A. Sutton, W. M. Sweet, T. W. Tait, J. B. Turner, E. L. Vansant, A. J. Wagers, M. A. Warlow, W. W. Watson, S. L. Weintraub, L. C. Wessels, H. S. Wieder, A. Wrigley, W. Zentmayer, S. L. Ziegler, Philadelphia.

Schuylkill County Society—G. R. S. Corson, G. H. Halberstadt, Pottsville; G. H. Moore, Schuylkill Haven.

Venango County Society—G. B. Jobson, Franklin.

Washington County Society—C. B. Throckmorton, Canonsburg.

York County Society—J. T. Harbold, Dallastown; T. H. Wertz, Hanover; J. F. Klinedinst, S. I. McDowell, York.

SECTION ON PEDIATRICS

Allegheny County Society—P. J. Eaton, E. B. McCready, Pittsburgh.

Armstrong County Society—F. C. Monks, Kittanning.

Berks County Society—H. P. Brunner, Reading.

Bradford County Society — C. M. Woodburn, Towanda.

Cambria County Society—F. U. Ferguson, Gallitzin; H. J. Cartin, Johnstown.

Dauphin County Society—H. R. Douglas, Harrisburg.

Delaware County Society — K. Ulrich, Chester; A. R. Easby, J. C. Starbuck, Media.

Fayette County Society—H. E. Hall, Uniontown.

Huntingdon County Society — J. M. Keichline, Petersburg.

Lehigh County Society—F. R. Bausch, Allentown.

Luzerne County Society—C. H. Miner, Wilkes-Barre.

Montgomery County Society—H. A. Bostock, W. R. Roberts, Norristown.

Philadelphia County Society—J. O. Arnold, E. L. Bauer, G. C. Bird, R. M. Blitzstein, J. M. Boice, W. N. Bradley, P. B. Cassidy, L. S. Cogill, J. F. E. Colgan, H. J. Cowie, C. V. Dorwarth, I. E. Gaston, E. L. Graf, E. E. Graham, J. P. C. Griffith, S. McC. Hamill, A. Hand, Jr., E. C. Jones, J. A. Kolmer, J. D. Leebron, I. V. Levi, F. B. Lynch, Jr., S. A. S. Metheny, A. H. B. Milligan, H. B. Mills, M. Ostheimer, J. B. Potsdamer, R. S. Rubin, C. E. Ruffel, M. P. Ryan, A. M. Seabrook, H. S. Snyderman, S. S. Stryker, A. J. M. Treacy, W. M. Welch, Philadelphia.

Washington County Society—C. C. Cracraft, Claysville.

SECTION NOT DESIGNATED

Philadelphia County Society—E. P. Corson-White, C. Marshall, Philadelphia.

DELEGATES FROM SISTER SOCIETIES

Medical Society of New Jersey — W. B. Stewart, Atlantic City; H. A. Stout, Wenonah; L. M. Halsey, Williamstown.

Pennsylvania Pharmaceutical Association—J. Atlee Dean, Philadelphia.

GUESTS

Hattie Frank Love, Soochou, China; W. C. Braun, Major E. W. Ryerson, Chicago, Ill.; Louis Hamman, Major R. Trustall Taylor, Capt. Rhoades Fayerweather, Baltimore, Md.; Lieut.-Col. R. B. Osgood, Boston, Mass.; Harry S. Reger, Jamestown, N. Y.; Roy D. Grimmer, Hempstead, N. Y.; Floyd M. Crandall, Nathan W. Green, S. J. Meltzer, Royal Whitman, New York, N. Y.; Richard E. Tomlin, Lakewood, N. J.; Charles A. Schneider, Newark, N. J.; C. R. Fuller, M. C., U. S. Army, Kenneth F. Maxey, M. C., U. S. Army, Lieut.-Col. Richard Slee, M. C., U. S. Army, Capt. Marion C. Wilson, M. C., U. S. Army, Camp Crane, Allentown; Eloise Meek, Bellefonte; William Henry Bernhardt, Annie R. Elliott, L. T. Roche, Norristown; Henry W. Banks, Frank W. Swallow, Capt. Carl C. Yount, Philadelphia; Charles Claude Guthrie, Pittsburgh.

INVESTIGATE NEW SOCIETIES

Many of our members have received an invitation to join a medical organization styled "The Allied Medical Associations of America," and some of them, without investigation, have been inclined to accept membership in it. For their benefit and as a matter of general information we present some of the known activities of the secretary-treasurer of the new organization, Dr. L. M. Ottofy of St. Louis, who seems to be the principal agitator for members.

Dr. Ottofy is listed in the medical directories as a graduate of the Homeopathic Medical College of Missouri, 1888. He is a pronounced antivaccinationist. In 1914 he sued the Board of Education in St. Louis in an effort to force his children into the public schools without being vaccinated, but the court sustained the Board of Education. In 1916, according to reports published in the newspapers, he was cited to appear before the prosecuting attorney of St. Louis on the charge that he had distributed alleged indecent cards at a political meeting. It is said some of the cards bore an indecent drawing of President Wilson. He was one of those scheduled to read a paper at the meeting of the Medical Society of the United States, an organization of fee splitters exposed by us in 1916. He has been exploited in the St. Louis newspapers from time to time as possessing a cure for cancer, and at one time it was stated that he had found a deposit of radium on a Missouri farm, location not given.—*The Journal of the Missouri State Medical Association,* October, 1918.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

OFFICERS AND COMMITTEEMEN FOR THE YEAR 1918-1919

PRESIDENT: Frederick L. Van Sickle, Olyphant

PRESIDENT ELECT: Cyrus Lee Stevens, Athens

VICE PRESIDENTS: First—William D. Robinson, Philadelphia; Second—John N. Sprowls, Claysville; Third—Julius H. Comroe, York; Fourth—Wesley F. Kunkle, Williamsport

SECRETARY: Walter F. Donaldson, 8103 Jenkins Arcade Building, Pittsburgh

ASSISTANT SECRETARY: Christian B. Longenecker, 3416 Baring St., Philadelphia

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THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

Volume XXII
Number 3

Chicago, Ill., and Athens, Pa., Dec., 1918

Subscription:
$2.00 Per Year

ADDRESS

CHAIRMAN'S ADDRESS *

John L. Atlee, M.D.
LANCASTER

These are times of stress and strain for all, and for none more than for the surgeon. Nevertheless the officers of the Section on Surgery have no apologies to make for the quality and value of the papers to be presented to you. For this I have to thank the secretary, Dr. Thomas, for it has taken unusual time and energy to complete the program under existing conditions, and I wish to thank also the members of the section for their ready cooperation and willing response to the call for papers and discussions.

The present sees the whole world a blazing furnace, and all mankind is passing through the fires of war. Heavy though the cost may be, we shall certainly come out of it cleansed of much that is useless and false, and with a clearer vision of the true worth of things. Especially will this be true of the surgeon. All of our principles and practices are being put to such a trial as they never have been before, and only the absolute scientific truth can stand the test. In the past our progress has been hampered by the barnacles of sects and dogmas founded on the most absurd theories, but scientific facts alone, not theories, can endure today. Nothing has been more encouraging than the attitude of General Gorgas in refusing to recognize anyone except the trained physician, whose practice is founded on the firm foundation of science. This is no time for wild fancies, nor for the vaporings of clouded intellects.

The absence of the great number of physicians who left their patients to serve their country will leave the door more widely open than ever to the charlatan and the patent medicine, and unquestionably this crisis is a wonderful opportunity for the quack. Let each and every one of us remember that we have every weapon that any charlatan, quack or patent medicine vender possesses, but that most of these weapons we should not deign to use, and we have one other which they do not possess, the knowledge of the science of medicine, and this is the one weapon no sect or system can withstand. Every patient who vaunts a cure obtained through the harpies who feed on the sick and afflicted is a criticism, not of scientific medicine, but of the individual physician's knowledge, ability and devotion to his art. At this time, therefore, above all others we should study our art with diligence and apply it with careful thought and untiring energy.

That there was a growing scarcity of physicians in rural communities even before the war is an undisputable fact. The country doctor has the most arduous, exacting and wearing of lives without exception and the remuneration is poor to say the least. When a medical education could be acquired in a few years with a common school foundation, the outlay in time and money required for graduation in medicine was small, and the remuneration seemed ample, but now the cost in years and money is so great that the remuneration must be large to make the profession attractive. Furthermore, there are many avenues of activity open to men of scientific bent less arduous and more remunerative than medicine. It is absurd, even laughable, but a fact, that after a man has fulfilled the requirements of the law, after he has spent at least seven years and a large sum of money in preparation to practice medicine, and after he has taken an examination for a license to practice medicine, and has been granted that license the law gives him no protection and has no definition of what the practice of medicine is. Anyone, no matter how ignorant or criminal in intention, can do exactly the same thing so long as he does not call himself a doctor of medicine, our friends on the state board, notwithstanding. Justice is blind and, therefore, can only hear. However, I believe that this war will deeply impress everyone with the vital importance of scientific medicine and of the thoroughly trained physician, and that out of this will come a new order of things which will give both the public and ourselves that pro-

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* Delivered before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

tection each should have. In the future let us hope we will be spared the humiliation of being forced to descend to labor union methods for our own salvation.

To no class of men has the call to enter the service of our country come with greater force than to us, and for none has the question whether to go or to stay been harder to decide. There are some who entered the service who had no right to do so, and there are some who stayed at home who should have gone, but in the great majority of cases the decision has been reached on the sole basis of duty, and it behooves none of us to call the others slackers. One must regret that the problem has been so great and the emergency so pressing as to forbid a fair selective draft of all physicians. Those who go will make great sacrifices, those who stay will have slavish, exhausting work and will bitterly regret forfeiting the honor and glory of serving our country. But when duty decides equal praise is due to both.

129 East Orange Street.

ORIGINAL ARTICLES

A DEMONSTRATION OF THE ABDUCTION METHOD OF TREATING FRACTURE OF THE NECK OF THE FEMUR *

ROYAL WHITMAN, M.D.
NEW YORK

The test of efficiency in the treatment of fractures involving joints, with one exception, is reduction of deformity, since otherwise function must be impaired. The exception is fracture of the neck of the femur, because the means hitherto at command have been inadequate to apply the rule.

The basis of all conventional methods is so-called extension, which is mechanically inadequate because the neck of the femur projects from the shaft, so that traction on the limb even if sufficient and constant, can at best bring the fragments only into a lateral and consequently insecure relation. This insecurity is so apparent that it has long been accepted as an axiom, that deformity, if it seems to assure contact, shall not be disturbed, function being disregarded in the hope of insuring repair. Yet even from this standpoint the results are very disappointing, so extraordinarily bad, in fact, that they are ascribed not to the lack of opportunity, but to failure of nutrition, spontaneous absorption and the like, and it is generally believed that efficiency, as it is understood in the treatment of other fractures, is impracticable or futile or dangerous.

The abduction treatment, by contrast, is in strict accord with surgical principles, because it is adequate to apply them. It is adequate, because it utilizes the construction of the hip joint to correct deformity and to adjust separated fragments.

To illustrate: The neck of the femur projects slightly forward, and upward from the shaft at an angle of 130 degrees, permitting a range of abduction of the limb of about 50 degrees. In this movement the head of the femur descends in the acetabulum, and emerging below distends the capsule. The neck now lies in an approximately horizontal plane, and further abduction is checked by tension on the capsule, and by contact of the trochanter with the rim of the acetabulum. (Fig. 1.)

It will appear, therefore, that the fragments of a fractured femoral neck, which with the limb in the line of the body lie in a lateral relation, may, by abduction, be brought end to end into resistant contact when the capsule is made tense. (Fig. 2.)

The practical application of the treatment for complete fracture is as follows: The patient having been anesthetized is placed on a pelvic rest provided with a perineal bar for fixation, the shoulders resting on a box of equal height, the extended limbs being supported by assistants, who, by direct manual traction at the ankles, draw the patient firmly against the perineal bar. The assistant on the injured side continues the traction, at the same time rotating the limb slightly inward, while the surgeon lifts the thigh and guides the trochanter to its normal position. When the displacement is completely reduced, as demonstrated by measurement, the two assistants simultaneously abduct the limbs, the one on the sound side slightly in advance of the other; in order to fix the pelvis and to demonstrate the normal individual range to which the injured limb must conform.

The typical attitude at the completion of the operation is full symmetrical abduction of the two extended limbs on a level pelvis with the landmarks on the two sides in exact correspondence. This assures adjustment and fixation; for, as has been stated, abduction places the

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

fragments in the same plane, while the tension on the capsule which surrounds each must direct them toward one another, and finally exert mutual pressure. Meanwhile, the apposition of the trochanter and base of the neck with the acetabular rim furnishes a second point of resistance to displacement, and the security of direct bony contact is further assured by the impotence of the muscles in full abduction. This is what is called anatomical or natural splinting, which is made effective by the attitude of the limb, an attitude that is maintained by a long plaster spica, extending from the axilla to the toes, applied in full abduction, full extension and slight inward rotation. (Fig. 4.)

This is not a matter of conjecture, since the initial and subsequent efficiency of the method may be demonstrated by Roentgen ray examination through the plaster at the time of the operation and at intervals thereafter.

As has been stated the upward inclination of the neck of the femur permits the normal range of abduction, consequently reduction of the inclination must limit it, and if the neck is displaced backward, inward rotation and flexion are in like manner restricted.

The characteristic deformity of the incomplete or so-called impacted fracture is depression and backward displacement of the neck. This causes a direct mechanical restriction of movement, which is still further increased by muscular adaptation to the incongruity of the joint. (Fig. 1.)

It is doubtful if the mechanical significance of deformity was appreciated by those who established the rules of conventional treatment, but, if so, it was disregarded because of the uncertainty of reapposing the fragments if once separated. The abduction method, which assures this security, is also an easy and exact means of correcting the distortion, which bears no resemblance to that bugbear "the breaking up an impaction." In fractures at the hip the head fragment contained within the acetabulum is relatively fixed, the displacement being of the limb segment. If, then, the neck of the femur is forced downward to a right angle with the shaft, for example, and displaced backward, it is in such relation to the pelvis as it would be if under normal conditions the limb were abducted to the full limit and rotated inward. If, therefore, in the manner already described, the limb be placed in that attitude, an approximately normal relation will be restored. In the large proportion of cases of this type there is no impaction in the sense of a resistant deformity, since the reduction is accomplished with as much ease as when the fragments are more widely separated. If the fracture is incomplete and the deformity, as is often seen in childhood, is caused by the opening of a wedge-shaped gap on the upper border of the neck, slight leverage action combined with downward pressure on the trochanter may be necessary, the superior rim of the acetabulum furnishing the fulcrum. (Fig. 7.)

The correction of deformity, when accomplished by traction, abduction and inward rotation, is followed immediately by fixation in the plaster spica and, far from endangering repair, it makes it possible by actually apposing the fractured surfaces in a fairly normal relation.

The abduction treatment is comprehensive in its character, and having assured the initial opportunity for functional recovery, supplements it by protection and after care, so notoriously lacking in conventional treatment, and which are the more essential because repair is slow, and because of the strain to which the femoral neck is exposed.

The original spica support is retained for from eight to twelve weeks. After its removal the patient remains in bed until fair motion is restored in the knee joint, and until some degree of voluntary muscular control of the limb is established. By far the most important passive movement is to draw the limb outward several times a day to the attitude of abduction, in which it was originally fixed by the spica, in order to prevent the tendency toward flexion and adduction, which is the natural accommodation to injury or disease of the hip joint.

Weight bearing is not permitted for at least six months, the progress of reconstruction being estimated, not by time but by absence of discomfort, by voluntary control of movement and by successive Roentgen-ray pictures. A modified hip splint that permits locomotion without weight bearing is, therefore, of great service during convalescence.

The abduction method is primarily a treatment for fracture, whose efficiency was first tested on youthful subjects. Conventional treatment is ostensibly a compromise between physical infirmity and the local injury, and although its quality is the same for all, the aged subject always receives the first consideration in the textbooks.

As a matter of fact, fracture of the neck of the femur is common at all ages, even in childhood, and the great majority of the patients are physically qualified for efficient local treatment.

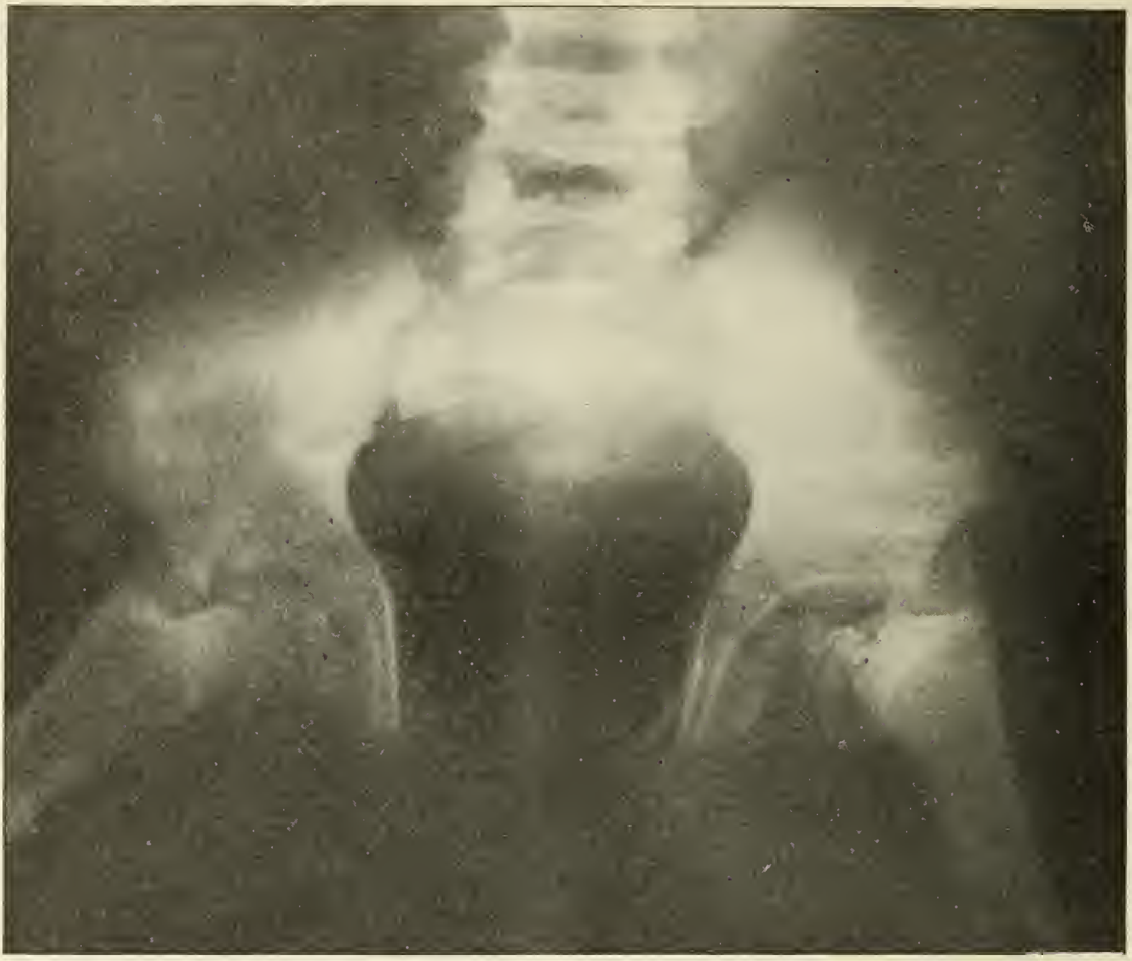

Fig. 1.—Showing the contact of the trochanter and pelvis at the limit of normal abduction on the right side, and the direct limitation of abduction due to a shortened and depressed femoral neck on the left.

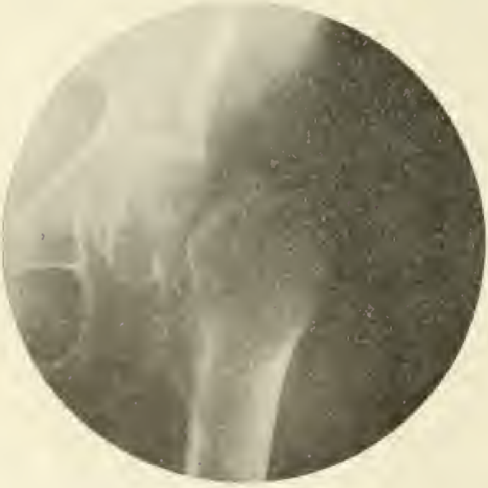

Fig. 2.—Intracapsular fracture in an elderly subject. (See Fig. 3.)

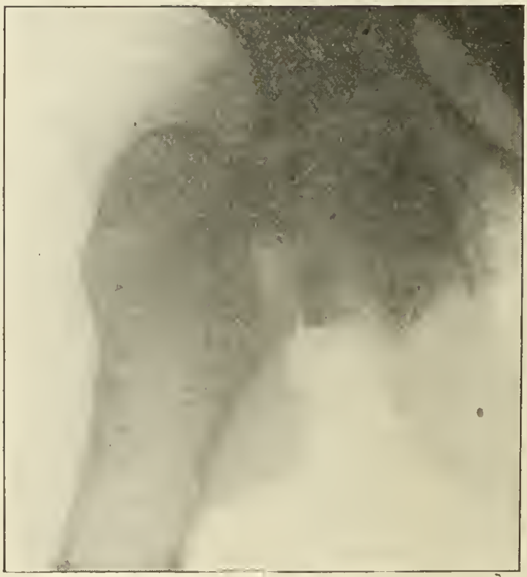

Fig. 3.—Taken through the plaster one month later, showing the security assured by bony contact.

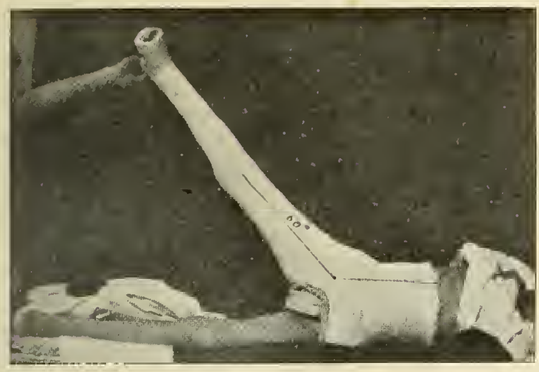

Fig. 4.—Fixation of the limb in full abduction and extension by a long plaster spica.

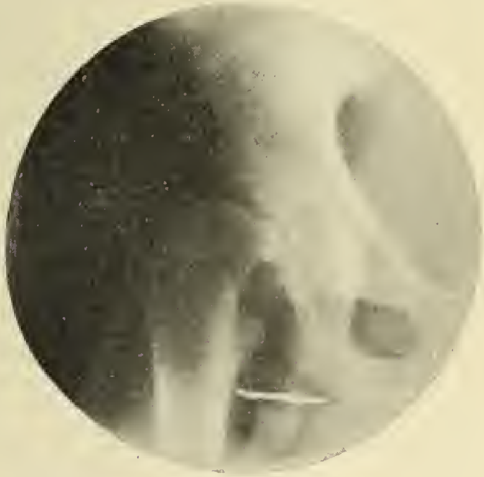

Fig. 5.—Epiphyseal fracture in an adolescent. (See Fig. 6.)

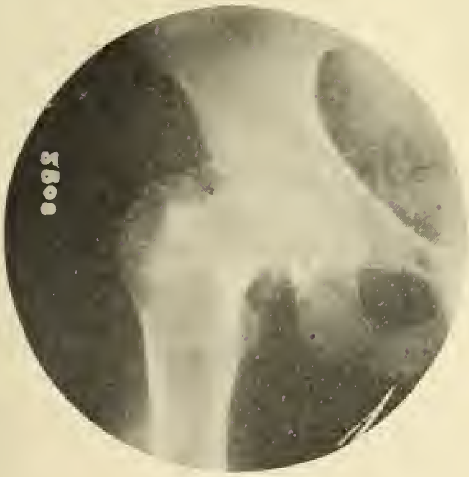

Fig. 6.—Final result of the abduction treatment.

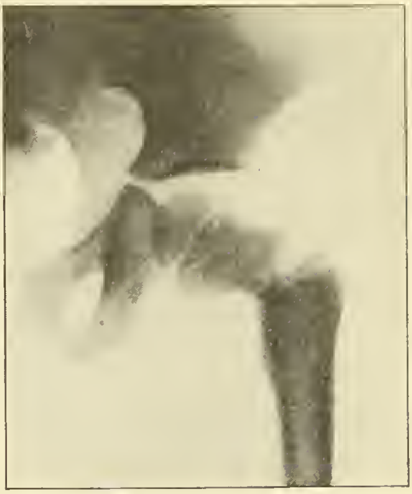

Fig. 7.—Fracture near the base in a young child. (See Fig. 8.)

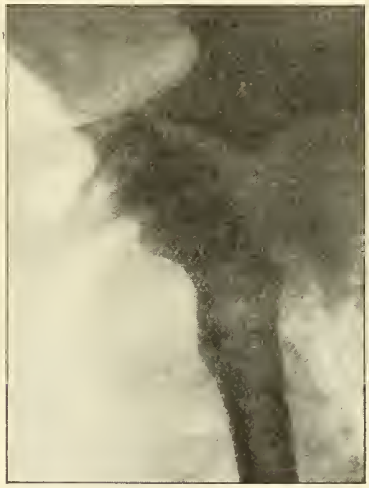

Fig. 8.—After reduction. Taken through the plaster, showing restoration of the normal angle.

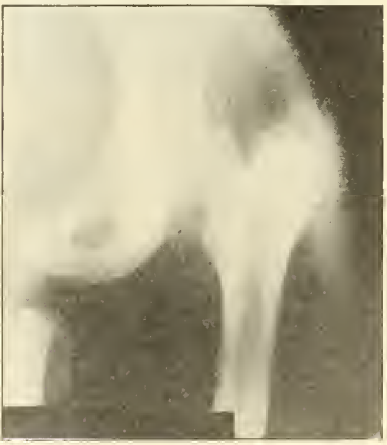

Fig. 9.—Fracture at the base in an adult. (See Fig. 10.)

Furthermore, contrary to the general impression, the abduction method has a far wider range of practicability than conventional treatment. The plaster splint is independent of the bed, and permits frequent changes of attitude. The head of the bed may be elevated to any degree, and the patient may be turned completely over to the ventral position. Thus bed sores and hypostatic pneumonia may be prevented. The spica constrains both the body and the limb, a constraint that is essential to the control of the fracture, but when properly applied it is usually more comfortable than the appliances for traction, which confine the patient to the back, and even than nontreatment with the attendant pain on movement.

It is much easier to demonstrate technical efficiency than to convince an apathetic profession that it is worth while. Yet the conventional explanations of failure indicate clearly, as has long since been demonstrated in practice, that the result is more directly determined by the quality of the treatment than is that of any other injury of its class, for in proportion to lessened capacity the more favorable must be the opportunity for repair. The purpose of treatment, therefore, is to provide opportunity; for although opportunity may not assure success, want of opportunity certainly assures failure.

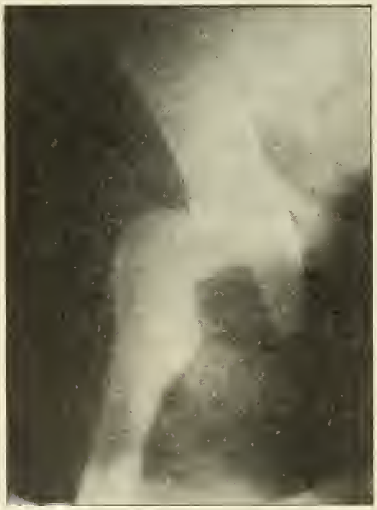

Fig. 10.—After reduction by the abduction method.

From this standpoint the abduction method has the great advantage, that it is applied with a definite purpose, whose accomplishment is physically demonstrable, and since it is under single control it fixes the responsibility for the result, in so far as it is determined by opportunity, on the one who undertakes the treatment. Conversely it would appear that the responsibility for failure must be borne by those who persist in conventional treatment, which is manifestly and admittedly inadequate to assure the essentials of repair, and which presents such a record of failure as to almost justify the inefficiency and neglect that have always characterized its practical application.

238 Lexington Avenue.

DISCUSSION

Dr. W. L. Estes, South Bethlehem: The immense value of Dr. Whitman's method of treating fractures of the neck of the femur is generally conceded by surgeons who understand treatment of fractures. I wish to add my testimony to its many good features and to express to Dr. Whitman my indebtedness to him for the publication of his method and for the clarity of his explanations today.

One must always have in mind, however, in the treatment of fractures the fact that while the fracture itself is a local condition the fractured individual, so to speak, is a complex of very various and varied, and in many instances, remote systemic conditions. In other words, one must treat the individual first and the fracture, the local traumatized region, when and how the general condition will permit.

It is not possible, therefore, to lay down a hard and fast rule, nor any specific method of treatment of fractures which is applicable to and which should be applied to every case.

I am sure Dr. Whitman appreciates this point and will not allow the enthusiasm of a discoverer and the conviction of a practitioner to carry him so far as to advocate the employment of his method in every case of fracture of the neck of the femur. This would be very misleading and would result in many cases in disaster in the practice of his followers who might be too inexperienced to discriminate.

Perhaps it will be well briefly to mention some of the individual conditions which contraindicate the employment of the Whitman method.

1. Age of the patient may be a contraindication. While I do not believe and have been very careful to say, that old people cannot endure confinement in bed, as a matter of fact and experience they do not endure this confinement if they are limited to one set position as regards the bed and its pressure. This is doubly true when they are in pain.

The statistics of the British and American committees on fractures show that of 119 cases of fracture of the neck of the femur, eighty cases were over forty-five years of age. There were but:

6 cases in the age period, 1 to 15 years
33 cases in the age period, 15 to 45 years
44 cases in the age period, 45 to 60 years
36 cases in the age period, over 60 years

It must be noticed, therefore, that more than twice as many fractures of the neck of the femur occur in old people than in the young.

2. Obesity of the patient makes the Whitman method very difficult and when combined with senility, makes it practically impossible.

3. The various dyscrasias may, when one is present in a patient, make the Whitman method inapplicable.

It is obvious, therefore, that the Whitman method cannot be applied to every case.

As to the degree of abduction recommended by Dr. Whitman, viz., 45 degrees. This, too, is not always practicable. The neck of the femur in advancing age loses some of the early obliquity as regards the shaft of the bone and assumes nearer a right angle to the shaft. This fact doubtless accounts partially for the greater liability to fracture of this segment in senile individuals. It also suggests the fact that in abducting the thigh the lower edge of the distal fragment is carried by extreme abduction farther down (when the fracture is near the former epiphyseal junction of the head) than may be safe on account of its pressure on the lower part of the capsule, besides the extreme abduction will carry the fractured surface of the distal fragment below the ordinary position of that of the proximal fragment. Furthermore, the pressure on the capsule by the distal fragment causes great pain and may erode the capsule. In quite old individuals I would suggest less than 45 degrees abduction.

I am very skeptical, too, about the constant position of the proximal fragment. Theoretically, it ought to drop by gravity downward and rest against or toward the lower part of the capsule if the round ligament is not torn. As a matter of fact, the round ligament is torn in not a few cases of so-called intracapsular fractures, and in some cases the articular surface of the proximal fragment is dislocated and the end of the fragment may be directed upwards or backwards with synovial fragments wrapped about the fractured surface.

Satisfactory skiagrams of the fragments and their exact relative positions are very difficult to obtain, and one must judge the condition of affairs in some instances by the age of the patient, the history of the accident, and by palpation, measurements and gentle manipulations.

I have found a modification of the Whitman method very comfortable and effectual in a number of cases. The principle of abduction is followed in every case, but instead of applying a plaster-of-Paris splint the extremity is put in a Hodgen's apparatus and swung out by suspension to an overhead horizontal beam. This suspension makes the nursing of the patient, and the use of bed pan easy, and is very comfortable for the patient.

As regards the frequency of fractures of the neck of the femur my associate, Dr. W. P. Walker, looked up the records at St. Luke's Hospital and found that of fifty-three fractures of the femur we treated in two years, twelve, or 22 per cent., were fractures of the neck. Of these twelve fractures of the neck of the bone, only one was not in a person beyond forty-five years of age. Three of the senile cases died, making a mortality rate of 25 per cent.

Dr. Charles E. Thomson, Scranton: I would like to congratulate the program committee on bringing Dr. Whitman here to read a paper on this very interesting subject. At the same time I wish to inquire why his method has not been followed by the surgeons of this country. We have only two things to do in fracture that I know of. One is to reduce it and the other to retain it. Dr. Whitman spoke nearly all his time about the reduction, assuming that the parts were to be retained in plaster of Paris.

I had the good fortune about a quarter of a century ago to work for a year and a half with Dr. Whitman, and since that time I have treated upwards of 100 cases of fractured femoral neck. I have had one failure to get union and two deaths in very old people, and I am pleased to report one case that beats Dr. Whitman's case by one year. I had a patient with a fractured neck of the shaft below the trochanter. She was eighty-seven years old, made a perfect recovery and was alive at ninety-four. These patients do not suffer pain, in my experience, if the fracture is properly put up. Another point, as to the lamentable fact that Dr. Whitman's method is not practiced: We have a patient with fractured femoral neck in our city who, to my personal knowledge, has been in bed for eight years.

Dr. T. Turner Thomas, Philadelphia: I have used the method in a few cases, about half a dozen. I am not prepared to give results, except in a very general way. I would say that I have been very well satisfied with the results. The method of treatment is rational. I wish to say a word on the question raised by Dr. Estes as to whether we ought to encase these people in plaster. What impressed me most in the after treatment was the apparent freedom from pain and general comfort of the patient. Raising the patient on a bed pan with the old extension apparatus and changing the bed clothes, etc., produced mobility of the fragments and prevented union. The relief that it gave from pain more than compensated for any discomfort due to encasing the patient in the plaster. The use of plaster after joint operations appeals to me very much. To go to the other extreme, in very young children I have operated on the shoulder joints of thirty or forty cases of birth palsies and because of the good results I will not operate on a shoulder and keep the arm up in full abduction as I do without plaster. The perfect immobilization of the joint is the best guarantee I have against infection and pain. It seems to me worth while to say here that in my experience the relief of pain and discomfort due to the plaster was worth while.

Dr. John L. Atlee, Lancaster: We value Dr. Whitman's paper very highly. I would like to ask him about anesthesia, whether it is always general anesthesia; whether the knee is put up in flexion or extension.

Dr. Whitman, closing: An anesthetic is always administered to assure muscular relaxation. Gas and oxygen serve for older subjects. The position in which the limb is fixed is in full abduction and extension with slight inward rotation; just before the plaster becomes hard the knee is slightly flexed. The range of normal abduction is always tested on the sound side, and the attitude for fixation conformed to this rather than to an arbitrary standard. I believe that apposition and fixation are essential to the repair of fractures of the small part of the neck, because of the absence of external callus. The suspension splint used by Dr. Estes might serve for fracture at the base, although the mechanics do not appeal to me. In this connection I would remind the audience that my paper was on the efficient treatment of fracture of the neck of the femur, a treatment in strict conformity with surgical principles as applied to other fractures. It is not concerned, therefore, with inoperable cases or with the compromises necessitated by age and infirmity. Personally, I believe that efficient treatment is often less dangerous than nontreatment in cases of this class. I have treated successfully a patient eighty-nine years of age who lived to be ninety-three, and many others of advanced years with but one death.

ACUTE OSTEOMYELITIS IN CHILDREN *

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Acute osteomyelitis is an acute inflammatory process affecting chiefly the long bones during childhood and adolescence. It is the most common inflammatory disease of bone as well as the most serious on account of both local and general consequences, immediate and remote. The flat and irregular bones are rarely affected.

The term acute osteomyelitis should be restricted to the cases due to primary hematogenous infection of the medullary tissues by virulent pyogenic organisms.

This definition would exclude cases of osteomyelitis secondary to open fractures as well as the rare cases due to extension from an infected focus in the periosteum, both of which may occur at any time of life. It would exclude also syphilitic, tuberculous, typhoid and similar forms of osteomyelitis in which all the symptoms are milder in character and more chronic in course (unless there is a mixed infection).

These cases should be included under the head of subacute or chronic osteomyelitis, and designated according to etiology as osteomyelitis following open fractures, posttyphoid osteomyelitis, etc. The importance of being precise in the use of terms does not require argument.

Many synonyms have been suggested, such as "acute necrosis," "acute infective osteomyelitis," "acute septic osteomyelitis," "acute diffuse infective periostitis," "acute diaphysitis," "acute panostitis," "acute purulent synovitis," "pyemia of bone," etc.

Such terms as osteoperiostitis, panosteitis, etc., are rejected for these cases as unnecessary and as tending to confuse the subject. The fact that the process secondarily attacks the cortex and periosteum does not justify such titles. When we consider the usual course of the disease, which involves all of the constituents of the bone and recalls the numerous complications and sequels, it will become at once apparent that any effort to include in the title either the pathologic or clinical course would be futile.

Etiology.—The disease is practically restricted to definite parts of certain bones, and to the period of life when growth is most active. The preponderance of evidence indicates that it begins in the metaphyses of the long bones, *i. e.*, the spongy tissue of the shaft adjacent to the epiphyses. A brief review of the anatomy and physiology of these tissues at the time mentioned will make clear a number of important points in these cases.

Anatomy.—According to Lexer, the growing long bones are supplied by three distinct sets of vessels, diaphyseal, epiphyseal and metaphyseal, each of which appears to be terminal; no evidence of anastomoses with other groups, to any considerable extent, could be detected.

The blood supply of the medullary tissue is chiefly from branches of the medullary artery which terminate in narrow arterial capillaries. These expand abruptly into larger venous capillaries, which results in great retardation of the blood stream in the latter. The vessels in the red marrow have thin walls and an imperfect endothelial lining, in consequence of which the blood comes into close relation with the elements of medullary tissue. Being supported by the osseous structure the veins do not collapse or retract, and hence form open channels which facilitate the spread of infection and the taking up of particles that form emboli. The occasional occurrence of fat emboli in fractures and of pyemia in osteomyelitis is thus explained.

In addition to the veins that accompany the arteries, a number of larger veins pass from the center to the surface by way of canals through the cortex near the epiphyses.

Physiology.—It is from the diaphyso-epiphyseal junctions that the bones acquire all of their increase in length. This means during the period of growth a free blood supply, great physiologic activity and the presence of numbers of immature cells.

In addition to furnishing red cells and probably white cells also to the blood, it has been claimed that the medullary tissue of bone shares with the spleen and the liver the power of destroying micro-organisms circulating in the blood stream. It is even stated that in certain infections the bone marrow is more active in producing antibodies than any other tissue.

Germs have been found in the bone marrow, particularly after infectious diseases by a number of observers. Typhoid bacilli were found in the red marrow of persons dying of typhoid fever as regularly as in the spleen (Ebermaier; Qunicke). The bacteria of phlegmons, erysipelas and pneumonia have been reported in the marrow of patients dying of these diseases, even when there had been no indication of blood infection (Weichselbaum). Of ten cases of scarlet fever, the streptococcus aureus was also present. Of thirteen cases of diphtheria, the streptococcus was found in the bone marrow in nine, and the Klebs-Loeffler in one (Fraenkel).

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

It is assumed that these organisms, if not destroyed, under normal conditions remain latent, but may give rise to symptoms when some new factor disturbs these conditions. In order to produce the disease it is probable that the germs must be present in sufficient numbers or virulence to overcome the defensive action of the medullary tissues, and also that the circulation and integrity of the cells have been affected in some way. The disease may also be established by bacterial emboli.

Age.—As has been stated, primary acute osteomyelitis is practically met with during the developmental period of life only. The majority of cases occur between the first and seventeenth years, after which there is a steady decline in frequency. When the disease occurs after the twenty-first year it is usually a relapse of a previous attack.

Sex.—Males are said to be affected three times as frequently as females. This has been explained on the theory that from the nature of their play and habits, boys are more liable than girls to injuries, such as contusions and sprains, as well as to various forms of exposure.

Trauma.—Trauma is generally recognized as one of the factors in the etiology of osteomyelitis, and a history of injury, usually not severe, can be obtained in many cases. Slomann carefully investigated this point in 104 cases admitted to the Copenhagen Hospital, and found some injury mentioned in thirty-three instances. Ten of these appeared to be doubtful, but twenty-three were unmistakably traumatic. When we consider the youth of these patients and the opportunity for slight injuries it will be apparent that the history on this point will very frequently be deficient.

Previous Illness.—Many cases have followed such diseases as tonsillitis, enteritis, furuncles, measles, scarlet fever, typhoid fever, pyemia, etc.

Exposure.—Exposure to severe cold, by lessening the resistance of the tissues is likewise said to be a predisposing factor.

Micro-organisms.—The immediate cause of the disease is the lodgment and development of pyogenic bacteria in the medullary tissue of the bone. The infective agent in the majority of cases is the *Staphylococcus pyogenes aureus.* That this bacterium has a special preference for the medullary tissues of growing bone has been well established experimentally. The albus and citreus are found less frequently. The streptococcus either alone or associated with the staphylococcus is occasionally met with. The pneumococcus, colon bacillus, and other bacteria, either in mixed or pure culture, are sometimes present. Great variation in the virulence of the infection is seen in different cases.

Pathology.—The course of infections in bone as in other structures is influenced by the anatomic peculiarities present. The first effect on living tissues of any mechanical or chemical irritant is congestion, or determination of blood to the part. The purpose of this is to provide increased numbers or quantities of elements to bring about repair or to resist infection. In soft parts this congestion is shown by local swelling, as well as by the other well-known signs of inflammation. As bone cannot expand to accommodate the increased volume of blood and the cell proliferation brought about by the irritant, the intramedullary pressure becomes extreme. This tension or pressure explains the excruciating pain felt in the early stages of the disease. It is a well-known fact that bacterial activity, when under pressure, is much more virulent in its effects than under other conditions. Hence the rapid coagulation necrosis, venous thromboses, diffuse suppuration, and even early death of the bone in whole or in part. In fact, the only chance the bone has to escape destruction is through prompt relief of tension by the surgeon, or by rapid perforation of the cortex by the pus. To the rather common occurrence of the latter circumstance is due the fact that the majority of the patients survive and retain the affected limb.

Following the infection there is, first, diffuse hyperemia followed by rapid breaking down of the medullary tissue, with the appearance of yellowish or grayish foci of pus. As the osseous septa disintegrate the small foci of pus coalesce, forming larger collections. The process spreads rapidly, following the lines of least resistance, which are apt to be along the canal of the bone. Perforation of the cortex of the bone by the pus at one or more points almost invariably occurs during the first forty-eight hours, the periosteum being raised to a greater or less extent by the exudation, forming a parosteal, or subperiosteal abscess. The pus later breaks through the periosteum infiltrating the soft tissues widely, and appears as a fluctuating swelling beneath the skin.

The fate of the bone depends on how extensively the circulation is affected. If the medullary vessels only are occluded there will be central necrosis. If in addition to thombosis of the nutrient artery, the periosteum is largely or wholly destroyed, total necrosis will result.

The periosteum is so firmly attached at the epiphyseal lines, that in the majority of cases, the spread of pus beyond this limit is prevented. The epiphyseal cartilages also offer a resistant barrier so that the adjacent joint escapes in most cases, unless the epiphyseal line is within the joint capsule as in the epiphysis of the femoral head. While not a common occurrence, the pus may destroy the epiphysis or its periosteal attachment and, reaching the joint, set up a septic arthritis. Separation of the epiphysis from the diaphysis (epiphyseolysis) is said to occur from the second to the seventh day in from 12 to 15 per cent. of the cases. When this occurs the further growth of the bone from this end may be arrested.

The amount of bone lost, and the prevention of the many serious possibilities depend largely on the promptness of relief of the intramedullary tension. When this has been fully accomplished the further spread of the disease will be arrested and a barrier of granulation tissue will be established between the devitalized and healthy bone just as occur in the soft parts. The portion of bone which has been deprived of its nutrition thus gradually becomes separated, forming a sequestrum, the complete separation requiring six weeks to six months, according to circumstances, age of patient, etc.

Simultaneously with the formation of the sequestrum, regeneration of bone from the endosteum and periosteum is taking place, if these structures have not been destroyed in the inflammatory process.

Complications.—Thrombosis of the arteries and veins of the bone affected always occurs; involvement of the adjacent joint sometimes follows; metastatic foci in serous cavities and organs (meningitis, pleurisy, endocarditis, pericarditis) are met with; and pyemia, with abscesses in the brain, lungs, heart, spleen or kidneys may develop. Finally two or more bones may be involved, either simultaneously or consecutively.

The disease most frequently affects the long bones of the extremities, although the other bones are occasionally attacked. In a series of ninety-four cases affecting the long bones, studied by Homans, the disease was distributed as follows:

Femur, 39 (upper extremity 24; lower extremity 15).
Tibia 31 (upper extremity 12; lower extremity 19).
Fibula 7 (upper extremity 3; lower extremity 4).
Humerus 9 (upper extremity 9; lower extremity 0).
Radius 4 (upper extremity 0; lower extremity 4).
Ulna 2 (upper extremity 1; lower extremity 1).

Haage also found the seat of the disease most frequently in the femur (39 per cent.), but in his collection the lower extremity was involved in a greater number of cases than the upper.

Symptoms.—The symptoms are similar to those of other acute local infections, the chief characteristics being their suddenness of onset and intensity. They are fever, pain, frequently a chill, disability, depression, headache, backache, and, in some cases, delirium. The fever is usually high, reaching frequently 104 or 105 F. The pain is exceedingly severe and is apt to be referred by the patient to the adjacent joint. Nichols probably expresses the truth when he says the pain of acute osteomyelitis is the most intense that we are called on to relieve. A chill is common in the more severe cases. The affected limb rapidly becomes too painful to permit of any use or movement. The severity of the depression, headache, backache and delirium depends on the degree of toxemia. The white blood-cell count is usually high.

In the younger patients the local conditions may at first be entirely overlooked on account of overwhelming constitutional symptoms.

Any movement or manipulation of the affected limb gives rise to so much pain that the patient will scarcely permit it to be touched. As soon as the extreme tension within the bone has been relieved by the escape of the pus the exquisite pain will be relieved.

Evacuation of the abscess, whether spontaneously or by incision relieves all the acute symptoms, and the conditions then assume a chronic form. If the infection has invaded the adjacent joint, the symptoms caused by the resulting septic arthritis will overshadow the original trouble. The epiphysis adjacent to the disease may become separated (epiphyseolysis) giving rise to the appearance of dislocation. The symptoms during the subsequent months or years of more or less invalidism will depend on the severity and extent of the primary disease as well as on complications that may have occurred. Persistent discharging sinuses usually remain, until by extensive operative measures the canal of the bone is properly drained, and all dead or diseased bone removed. Ankylosis in faulty position may or may not be amenable to relief by tenotomies, corrective force, etc. If the epiphysis was involved in the inflammation, further growth of the bone from that point will probably be arrested.

Signs.—Fever, rapid pulse, loss of function, tenderness on pressure, and percussion over the portion of bone affected, leukocytosis and later swelling, redness and increased temperature. Redness and swelling are not prominent until the second day or later, and indicate that the pus has perforated the cortex of the bone and is accumulating beneath the periosteum or has even infiltrated the soft parts.

These signs become more pronounced as the pus, having worked through the periosteum, infiltrates widely through the intermuscular tissues, and finally induration of the skin and fluctuation indicate that it has reached the surface. Loss of function is complete and is due to the extreme degree of tenderness and pain on movement. Tenderness on pressure and on percussion is present from the beginning and is the one sign on which a diagnosis may be made in the early stages.

Diagnosis.—This must be made on the day that the disease appears, or not later than the following day, provided, of course, a physician has been called. After an extensive parosteal abscess has formed, and especially after the pus has perforated and spread through the soft parts, all characteristic features are lost. The disease is to be distinguished from sprains and trauma of all kinds, the various forms of arthritis, rheumatism, abscess, cellulitis, lymphangitis, typhoid fever, pneumonia, meningitis, etc. On account of the close proximity of the joint, the patient or the parents will almost invariably direct attention to the joint, which may mislead us in our examination, especially when a history of a previous injury is given. In sprains and trauma generally all of the manifestations are less severe than in bone inflammation and the joint will be involved.

As to arthritis, we know, as a matter of experience, that primary joint infections are of the rarest occurrence during the period of life when acute osteomyelitis is most common. Keeping this clinical fact always in mind, if we are called on to examine a case on the first or second day of the disease, provided the manipulations are most gently and carefully carried out, it may be observed without raising the limb from the bed or pillow that the joint is not swollen and the actual joint-line is free from tenderness. If now the end of the bone adjacent to the epiphysis be examined with equal care and precision, tenderness to pressure and percussion will be elicited. These findings, in conjunction with the symptoms as given above, will establish the diagnosis.

Acute articular rheumatism, the disease most apt to be confused with acute osteomyelitis, rarely involves a single joint; the symptoms are all less severe, the local signs will be found to involve the joint, not the extremity of a long bone; there is a characteristic rheumatic perspiration, and but slight increase in the leukocytes. The diagnosis of abscess or cellulitis requires prompt investigation as to its origin.

Inflammation of the deep lymph structures should not mislead except when the group beneath Poupart's, which overlie the epiphysis of the femoral head, is involved. In other locations the bone may be approached and examined remote from the location of the nodes. Only a careful consideration of the history and symptoms combined with a minute examination of the patient will exclude such diseases, typhoid fever, pneumonia and meningitis in some cases.

Prognosis.—This will depend largely on the severity of the initial symptoms and on the promptness of operative relief. Death has been reported in thirty-six hours from the beginning of the disease. In these cases little can be done; even a diagnosis may not be possible. It is this type that is mistaken for meningitis. Prompt opening of the bone may save the limb, and, if metastatic (pyemic) abscesses have not already occurred, also the patient's life. Even in the less severe cases the patient cannot be said to be free from danger until the focus of infection in the bone has been efficiently drained. Drainage having been secured, the patient's life may then be considered secure.

The next question concerns the fate of the bone, or even of the limb. This also depends on prompt drainage. The sooner this is accomplished the more bone will be saved, and the less the chance of losing the limb. If extensive stripping of the periosteum is permitted a considerable amount of bone will be lost by necrosis; or the entire diaphysis may die, if in addition, the central vessels become thrombosed. In such cases the periosteum may form a new shaft around the dead portion, but if this should fail, the limb will probably have to be sacrificed. The prognosis as to the bone cannot be given, therefore, until the surgeon knows something of the extent to which it has been involved. When it is apparent that the integrity of the bone has not been seriously compromised, a final cure may be expected. This may require one or more operations, the removal of diseased bone and proper drainage as well as careful after treatment for months or even years. Finally, we have to consider the ultimate result as regards deformity of bone, joint involvement and muscular contractures, all of which may occur in the severe cases, and may be the cause of considerable disability. These points must be predicated on a knowledge of the extent of the original process, the promptness and thoroughness of the operative measures, and the precautions observed in the after treatment to prevent or minimize these sequelae.

Treatment.—It should be stated as forcibly as possible that there is no medical treatment for acute osteomyelitis, in the sense of administering drugs internally or of making applications locally. Especially would I protest against lotions and salves that obscure the appearance of the affected part. I have many times been asked to examine a case in consultation, and have found the limb covered with a thick ichthyol ointment that could have done no possible good, but which seriously interfered with a proper examination. Such treatment is not only of no value, but it deceives the patient and friends with a belief that the disease is really being treated, and the time when the diagnosis is of the greatest importance is allowed to pass. The practitioner may justify himself with the argument that he is treating the symptoms until the diagnosis is clear. The error of such a course has been pointed out.

No treatment should be instituted until a diagnosis has been made unless the agonizing pain requires the use of morphin, but it should be withheld, if possible, or given in moderation until a diagnosis is established. The exact seat of the pain must be determined with the utmost precision at the first visit. This having been located, an operation should be undertaken to open the bone at this point, at the earliest practicable moment. While waiting for the necessary preparations, the limb should be elevated to relieve the congestion.

When feasible the limb should be rendered "bloodless" by elevation and the circulation controlled by a tourniquet. In this way the demarcation between the healthy and inflamed tissues is quite apparent to the eye. The approach to the bone should be as direct as possible, having regard for important structures and through intermuscular spaces as far as possible. The periosteum should be incised, at least to the extent that the cortex of bone is to be removed, and the medullary canal opened by trephine, chisel and mallet or other suitable means.

The amount of bone to be removed will depend on the timeliness of the operation. In the ealiest stages a small opening may suffice, but at any rate the area of infection should be freely drained. I do not regard a few gimlet holes through the cortex as safe treatment. However, this point must be determined at the time of operation, experience being the best guide.

It should be stated that there is a difference of opinion among surgeons as to the necessity of opening the bone in every case. Apparently all agree on a very prompt incision of the periosteum. At this point, the more conservative decide whether any further step is necessary by the appearance of the bone. Those who adopt this plan believe that the disease may begin as a periostitis, involving the bone proper secondarily, and hence by prompt incision of the periosteum, the further progress will be arrested. My own experience does not confirm this view. It is my opinion that in the cases that this opinion is based on the pus had worked through a small opening, forming a parosteal abscess, and when the periosteum was incised the opening in the bone not being observed, the case was considered as one of periostitis.

We know that in acute osteomyelitis pus does frequently perforate the bone and appear beneath the periosteum in an incredibly short time, and the sooner this occurs the more circumscribed will be the involvement of the medullary tissue. If the primary focus of suppuration happens to be fairly drained in this way relief of the parosteal abscess may be followed by healing and, possibly in rare instances, by permanent cure. It is, however, a much safer rule to open the bone in every case. The force of this, it seems to me, will be apparent when we recall how many of these cases, months or years after complete healing, have a recurrence of the inflammation and require secondary operations, with the inconvenience of months of after-treatment during the healing process.

In the later stages, when sequestra are in the process of formation and pus is issuing from one or more sinuses, any radical operation should be postponed until there is sufficient new bone formation to maintain the strength of the limb. The roentgen ray will assist in determining this. During this period, however, we must be sure that the drainage is efficient, and as a rule this will require some operative intervention. When the medullary canal has been opened, with or without removal of sequestra, it is my practice to tampon the cavity with gauze, at least until it is clear that all bone infection has been eliminated. The dressings must be renewed sufficiently frequently to maintain strict cleanliness.

When the bone cavity has been large, and the filling in is deficient, leaving a defect that is objectionable for any reason, it may be largely corrected by the implantation of various substances. My first choice is living bone, and my second, decalcified bone.

In the after-care of all these cases, in addition to maintaining cleanliness, the proper position of the limb must be insisted on in order to prevent contractures, and the adjacent joints subjected to regular passive movements to obviate ankyloses.

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THE INTERPRETATION OF THE MANIFESTATIONS OF SHOCK*

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INTRODUCTION

In studying shock in the laboratory, the first consideration has been to try to discover the causative mechanism or mechanisms, with the view of establishing scientific interpretations of the phenomena and with the ultimate purpose of developing rational methods of prevention and treatment.

Studies have been limited to experiments with laboratory animals, mainly dogs. Thus, at the outset, such investigations are handicapped by the uncertainty that the conditions induced are identical with the conditions in man, as well as the difficulty of diagnosis. Consideration of the biologic differences in animals and man, especially psychic development, the great variation in the susceptibility of individuals, and the differences in the experimental conditions and the conditions under which shock is exhibited in such experiments and in man, as anesthesia in the former and its absence in the latter, renders the above view obvious. Even surgical shock in man rarely is strictly comparable to experimental shock, for usually surgical procedure is undertaken to correct abnormality, while, as a rule, animals employed in experimental studies are normal.

The very great resistance of many animals to shock induction led investigators to employ methods of extreme character and magnitude, so that search for causative mechanisms has been complicated and obscured. By such treatment, any animal may be reduced to a lethargic condition before death, but assumption that such condition fundamentally corresponds to typical shock in man is unwarranted.

In a series of forty-four animals studied, in a few cases only, has a close likeness to typical shock in man been observed. In other work in which dogs were operated on surgically, in a few instances, conditions that closely resembled "surgical" shock in man occurred.

Therefore, the difficulties encountered in shock induction and diagnosis, though perhaps not insuperable, are very great and account largely for the meager results of value in clearing up the question.

RESULTS

Our studies so far in the search for causative mechanisms have been for the most part negative. For example, studies of the blood for significant change in volume, and in morphologic and chemical composition, have been negative; or changes of possible significant quality or degree have been negatived by control observations.[1] Circulatory, respiratory and thermal changes for the most part have been of similar character, that is, not primarily causative of shock. The evidence points rather to the central nervous system as the probable seat of primary change, particularly to the bulbar mechanisms presiding over circulation and respiration. At present our data exhibits gaps, owing to the lack of adequate methods for measuring the functional state of such tissues. But the facts obtained, when considered from the standpoints of analogy and clinical observation, we believe, warrant this view.

We have observed alterations in nervous activities, particularly of bulbar centers.[2] Though presenting marked variations, results obtained in pronounced shock showed that both reflex vasomotor and respiratory response may be profoundly decreased. Decrease in reflex augmentation of arterial blood pressure occurred, both actual and in percentage of blood pressure. That the result in some instances was not due to stimulation fatigue was shown by stimulating more centrally along the nerve trunk, and by moderate mechanical nerve stimulation, as rhythmic traction. That it was not due to fatigue of a single path due to repeated stimulation (synaptic fatigue), or to possible localized central fatigue, was shown by stimulating a nerve connected with a remote spinal segment.

Before drawing conclusions from such observations, it is necessary to know whether or not reflex vasomotor augmentation is a true index of the state of activity and capacity of the vasomotor mechanism. If it be assumed that when the vasomotor mechanism is in good functional state that its activity is, say, 60 per cent. of what it is capable of manifesting, and that in another state it exhibits 90 per cent. of its capability, and that in both cases its total capabilities, or 100 per cent., can be elicited reflexly, it seems permissible to conclude that reflex response may serve as an index of degree of "tonic" functional activity, i. e., "tonic" activity would vary *indirectly* as reflex augmentation. But results have shown that with a high pressure level associated with increased vasomotor activity, reflex augmentation may be greater than at lower pressure levels and under more normal conditions. Also, we have occasionally observed reflex depression only before, and augmentation only after shock. These results do not disprove the possibility of the correctness of the view as to the relation of reflex response to functional activity, but illustrate the impossibility of drawing definite conclusions from such observations owing to inability to control the factors which govern response, such as possible change in reflex threshold, "treppe" effects, or other conditions as "reversal" phenomena.

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

[1] Guthrie, C. C.: Amer. Jour. of Phys., 1918, xlv, 544; Arch. of Int. Med., 1918, xxii, 1.

[2] Presented in part before the Biological Society of the University of Pittsburgh, Nov. 1, 1917, and the Amer. Phys. Soc., Minneapolis, Dec. 27, 1917.

Disappearance of reflex vasomotor depressor effect before vasomotor augmentation has been observed, which may lead to erroneous conclusions as to the state of the vasomotor center, when conclusions are based on augmentation of blood pressure alone. This appears to be in line with the observation that in resuscitation, stimulation of the depressor nerve may give augmentation and no depression.[3] As illustrative of this, we have observed reflex depression with absence of augmentation in an animal in good condition, while later, and after prolonged nerve stimulation and partial cerebral anemia (and even after death and resuscitation, procedures which certainly, on the whole, tend to lessen reflex capabilities), we were able to obtain reflex vasomotor augmentation only. We would interpret this result as due, not to an increase in vasomotor augmentor activity, or reflex capability, but as more probably due to some other condition, as unmasking of augmentation by decline or disappearance of depressor action.

In the case of the respiratory center also, under certain conditions tonic activity may vary indirectly as reflex response. For example, after movements have ceased, as in suffocation, they may be elicited by nerve stimulation.

INDIRECT EVIDENCE

Indirect confirming evidence of fatigue of the vasomotor mechanism is furnished by comparing the results of restorative measures in profound shock and in animals rapidly devitalized or reduced to a latent state as by ether, suffocation, injection of acid or profound cerebral anemia. Even after repeated resuscitation, we have obtained prompt recovery, it being necessary to readminister anesthetic; while in profound shock, recovery to like degree is rare and always gradual. In this respect it is more nearly like resuscitation after longer periods of inanition, or resuscitation after respiratory and circulatory failure from prolonged deficient cerebral circulation.

Comparison of vasomotor and respiratory effects in conditions of acute profound cerebral anemia and in prolonged partial cerebral anemia associated with nerve stimulation, and in shock induced by prolonged nerve stimulation only, gives additional evidence of fatigue of the vasomotor mechanism. Though presenting variations, we have observed comparatively abrupt termination of respiratory and vasomotor activity in acute profound cerebral anemia. Respiratory activity seems prone to disappear before vasomotor activity; and in resuscitation, both activities to reappear in the reverse order. In prolonged partial anemia, a condition very similar to shock supervenes, and respiratory and vasomotor activities more slowly decline, and in resuscitation more slowly reappear. Respiration usually is more persistent, and is first restored. Further study of such phenomena is essential.

These results indicate that cessation of function without great exhaustion occurs in the acute condition; while fatigue, from increased activity due to anemia and to nerve stimulation leads to greater exhaustion. This view is in harmony with the results of studies which have shown that extensive chromatolysis occurs in the nerve cells of the central nervous system under conditions of increased activity and of cerebral anemia, and in shock.[4]

The failure in profound shock of drugs acting on the central vasomotor mechanism is further evidence of fatigue.

Such results have strengthened the view that probably derangement of the nervous tissues is a causative factor in shock.[5] Certainly in these experiments it has been a prognostic consideration of first magnitude. Its close relation to the later or profound stages of shock (i. e., collapse) is more apparent and it is especially these stages that are of such practical consideration at present. In earlier stages of induction of shock associated with definite symptoms, we have observed a strong tendency to recover on discontinuing the procedures employed to induce the condition.

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[3] Stewart, G. N.: Manual of Physiology, 1914, p. 185.

[4] Gomez, L., and Pike, F. H.: Jour. of Exper. Med., 1919, xi, 257. Dolley, D. H.: Jour. of Med. Research, 1908, xx, 275; 1910, xxii, 331; 1913, xxix, 65.

[5] Guthrie, C. C.: Jour. of the Amer. Med. Assn., 1917, lxix, 1394.

CLASSIFICATION AND TREATMENT

The classification of shock previously proposed we still consider logical and practical.[6] Accordingly we are inclined to believe that shock of sudden onset in normal individuals, whether of psychic, traumatic, or psychotraumatic type, preponderatingly is of inhibitory character, which is in agreement with a view expressed by Meltzer.[7] Such shock may be of all grades of severity, and in many instances spontaneous recovery occurs, and in more severe types recovery may be brought about by application of stimulating therapeutic measures. Such recovery in itself is evidence that inhibition rather than exhaustion is present. This view is further substantiated by the fact that exhaustion is always preceded by fatigue and fatigue is a gradual process.[8]

In individuals in poor condition, that is, when the tissue functional capacities are low, or, in other words, when the reserve capacity of the "vital" centers is depleted and they are functionating near maximum, which quantitatively may be but little above minimal requirements, shock is more readily induced and more rapidly becomes profound and passes into collapse. From this viewpoint it is obvious that prompt treatment is demanded to prevent the condition passing into collapse. In collapse the picture is one of exhaustion and, therefore, treatment indicated differs entirely from that in shock. The tissues are functionating maximally, but their capacity is below minimal requirements; the problem, therefore, is to build up tissue capacity. The logical way to bring this about is to improve the quality and increase the quantity of blood circulating through the "vital" centers and other tissues in so far as is possible; and to maintain minimal demands on their activities. Lowering of the head, abundance of fresh air or administration of oxygen, application of heat, and the giving of warm drinks, are logical and commendable practices.

In case of serious hemorrhage, blood transfusion is indicated, and should be performed without delay. Common salt solution, if injected promptly, may be of value to compensate in volume temporarily for extensive blood loss. Viscous substances added to salt solutions for such injections may cause longer retention of the liquid in the blood vessels.[9] In the case of acacia, recommended by Bayliss,[10] one mechanism of its retention seems to be its action in suppressing urinary secretion. But I am not aware that it has been shown that the nutritive quality of the blood is improved by its presence, and, since under the low arterial blood pressure levels present in such conditions urinary secretion is profoundly decreased, it is not altogether clear that the addition of such substance is advantageous, unqualifiedly. For plain salt solution may promptly restore an acutely failing circulation due to deficient blood volume, unless blood loss has been excessive. In view, however, of current clinical experience, it would be conservative practice to add a colloidal substance to solutions used for such purpose.[11] (Six per cent. acacia in 0.9 per cent. NaCl has been recommended by the British.)

Others, notably the Russians,[12] have used hypertonic solutions, as salt, on the theory that such solutions will rapidly attract liquid from the tissues into the blood and thus increase the blood volume and restore the circulation. Such solutions are among, if they do not constitute, the most powerful diuretic agents, and even with comparatively low blood pressures cause rapid urinary secretion. If injected very slowly, such actions as they possess are correspondingly lessened. But all indications point to rapid treatment in shock and collapse.

In dogs with very low blood pressure and failing circulation following hemorrhage, we have obtained excellent circulatory restoration promptly by rapid injection of strong cane sugar solution (34.2 per cent.) notwithstanding the rapid excretion by the kidneys as soon as the blood pressure had risen to the level necessary for renal activity. In view of these results as well as favorable results hitherto obtained in preserving the vitality of isolated tissue in cane sugar solutions, and by Rous[13] with cane sugar solutions in preserving the vitality of red blood corpuscles in *vitro,* we feel warranted in concluding that by comparison, cane sugar is a desirable substance to choose for further experimental study.

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[6] Guthrie, C. C.: Blood Vessel Surgery and Its Applications, p. 344, 345; Jour. of the Amer. Med. Assn., 1917, lxix, 1394.

[7] Meltzer, S. J.: Arch. of Int. Med., 1908, i, 571.

[8] Porter, W. T.: Amer. Jour. of Phys., 1908, xx, 405.

[9] Bogert, L. J., Underhill, F. P., and Mendel, L.: Amer. Jour. of Phys., 1916, xli, 189.

[10] Bayliss, W. H.: Arch. med. belge., 1917, lxx, 793.

[11] Rous, Peyton: Jour. of the Amer. Med. Assn., 1918, lxx, 219.

[12] Kruglevsky, N. A., Russkiy Vrach, Petrograd, 1917, No. 48; abstracted in Jour. of the Amer. Med. Assn., 1918, lxx, 1576.

[13] Rous, Peyton, and Turner, J. R.: Jour. of Exper. Med., 1916, xxiii, 219.

GENERAL SUMMARY

It is recommended that the term shock be reserved for the condition exemplified by the acute clinical state; and that the term collapse be employed to designate the moribund state following shock or any other condition.

Experimental evidence is presented supporting the probability that the primary derangement in shock is of nervous character.

In collapse, indirect and general considerations strongly indicate profound nervous derangement.

The conditions in shock and collapse differ fundamentally and treatment indications differ accordingly.

In shock, associated with severe hemorrhage, restoration of blood volume is indicated. For this purpose transfusion seems best, but beneficial action may be obtained by intravenous injections of artificial solutions. The addition of a colloidal substance to such solutions causes their longer retention. For this purpose dilute acacia seems preferable to other substances hitherto employed.

Preventive measures and prompt treatment are strongly indicated.

Preventive measures are worthy of the most serious consideration, but they have been omitted from this discussion as we lack adequate first-hand observations. Discussion of theories is omitted for the reason that at the present time they are legion and no one has overwhelming support.

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TREATMENT OF SURGICAL SHOCK IN WAR INJURIES *

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It is recognized that surgical shock is greatly influenced in degree by individual susceptibility, by location of injury, by sex, age, and by previous disease or condition of the wounded. It may well happen, therefore, that soldiers exhausted by anxiety, fatigue, loss of sleep, and horror at their personal disfigurement, may show grave shock after severe facial mutilation. The mental depression will doubtless aid in the establishment of the lowered vital energy which causes the prostration, pallor of surface, clammy sweating, shrunken countenance, low temperature, feeble, frequent pulse, shallow breathing and the languid response to questions. Longmore, Weir Mitchell, Howell, Henderson, Crile, Meltzer, Porter and other physiologists and surgeons have given much attention to the pathology of surgical shock. It is probable that the term "shock" should be abandoned, because several pathologic entities with similar terminal symptom complexes have been included in the term.

In a clinical contribution to the subject written years ago I collected some data from experimental literature showing that "delayed" shock was a misnomer and that fat embolism had as one of its points of difference from true surgical shock its later arrival in the patient's symptomatology.[1]

More important in war surgery than discussion of the physiologic nature of shock are the questions of prevention and treatment. Avoidance of a fall in blood pressure, prevention of pain, and control in severity of traumatism are to be insisted on as prophylactic measures. Blood pressure must be maintained; hence, hemostasis is paramount. Anesthesia should not be allowed to reduce blood pressure, nor should it be toxic to a dangerous degree. Ether, although the safe anesthetic for general use, is not always given in a manner to fulfil both these conditions. It is toxic to nerve tissue and glandular organs and reduces blood pressure also. Janeway and Ewing assert that, unless administered with great care, it strongly reduces blood pressure. Nitrous oxid is safer in both directions and with associated nerve blocking may, perhaps, finally surpass ether in general availability.

Porter's observations in the European War prove to his satisfaction that low blood pressure is much more common in wounded soldiers than generally is believed by military surgeons. He states that fatalities may be greatly lessened by efficient treatment; and he bases his therapeutic methods on the similarity of results in laboratory work and his experience with wounded men at the front. He has found that a diastolic blood pressure of 45 to 50 mm. continued for a considerable time means that a laboratory animal will die of shock, unless saved by surgical treatment. The experimental animal, it is asserted by some, bleeds to death into its own portal veins, whenever accumulation of blood in the abdomen reduces the diastolic

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

[1] See Packard's American Edition of Holmes' System of Surgery (1881), Vol. 1, p. 143.

blood pressure to or below the critical point of 50 mm., unless prompt remedies are provided.

His assertion is that there is no essential difference between men and other animals in this low blood pressure criterion; hence, remedies that are successful in raising the blood pressure of one are to be adopted by surgeons for the relief of shock in the other. The wounded soldier, therefore, should have his blood pressure raised above the danger point by the aid of gravity, intravenous injection of sterile normal saline solution, and the employ of adrenalin. The supine position with the feet 30 cm. higher than the head should be maintained until diastolic pressure will remain close to the normal level. An hour or more may be needed to produce this effect in moderate shock. In grave emergency, the diastolic pressure should be raised promptly to 70 or 80 mm. by injection of normal salt solution into the venous current. The adoption of the hydrostatic saline injection should not be delayed; but the current flowing into the vein should be slow and continued until a pressure of 80 mm. has been reached. When the pressure falls again adrenalin should be given intravenously, preferably into a vein near the ankle. The test of sufficient venous medication is that the action of gravity has become able to maintain a safe blood pressure level.

The surgeon must remember that in very low pressure accompanied with persistent oozing of blood, and in which operation cannot be considered as an immediate remedial procedure, large injections of saline and adrenalin solutions may increase hemorrhage, by raising the general blood pressure. Transfusion of blood should then take the place of saline phleboclysis. This operation may carry the patient over the crisis and enable the surgeon to apply hemostatic pressure or ligatures to the bleeding points. The newer methods of transfusion with paraffined tubes and the use of sodium citrate render transfusion more available than was formerly the case. The blood may be kept in cold storage ready for immediate use.

Porter says that gravity is a most important agency in the treatment of shock. His words seem to indicate that he considers death inevitable in serious cases of perforation of the thorax which prevents the low chest posture, because it leads to asphyxia. In addition to the remedies already discussed external heat is of highest importance. Surgeons have long been familiar with the employment of heat. A hot bath might be employed while gravity and saline solutions are being used, provided its administration did not disturb the patients by the necessary movements. The wounded in shock must be kept hot, quiet, and have blood pressure raised to about 80 mm. Autotransfusion by bandaging the extremities may have value in increasing the general blood pressure. Prevention of escape of blood from oozing points by applying firmly a broad elastic bandage directly over the pulpefied tissues, has value in military, railroad, and machinery amputations and crushes. It should take the place of the not unusual rubber tourniquet applied near the trunk by many thoughtless attendants. Taking the diastolic blood pressure as frequently as every half hour is almost imperative in serious shock. Its information surpasses in value that obtained from frequent temperature investigations.

Porter has devised a cheap and easily made operating table for the ready application of the foregoing principles of treatment for surgical shock with low blood pressure.[2]

The table is heated with electricity under the supine patient, whose feet may be readily raised 30 cm. higher than the head. This insures that the abdomen is higher than the heart and brain. The wounded man is kept in the inclined position an hour or two or even more; and the diastolic blood pressure raised promptly to 20 or 30 mm. above the critical point previously mentioned. If normal saline is being employed as an intravenous remedy, it should be discontinued when the diastolic pressure reaches 80 mm. If there occur a secondary drop of importance in the blood pressure, which is not improved by a second phleboclysis, intravenous injection of saline solution with adrenalin is advocated. Porter uses this remedy by means of a venous puncture near the ankle. He desires to raise and keep up blood pressure until gravity maintains a safe level.

The temperature of solutions used should be 38° C. when sent into the venous channels, and about 500 c.c. is usually as much as is desirable at one time. A slow entrance of the solution lasts about ten minutes. The third injection should be the one to contain adrenalin and should slowly flow into the vein for about ten minutes. When diastolic pressure reaches 80 mm., the flow is discontinued. Fischel has objected to the use of adrenalin and pituitrin in shock unaccompanied by hemorrhage, and advises in such cases vasodilators instead of vasoconstrictors with the customary application of heat.

The surgeon should not overlook the value of the alkaloids found in opium and belladonna in treating shocked patients. Both have seemed to be clinically serviceable in some forms of the grave depression usually included in the term surgical shock. Obtunding pain, relieving fright and anxiety and inducing rest in sleep by morphin have surely some therapeutic virtue. Atropin also has had many advocates, perhaps used as a companion of morphin, its physiologic antagonist. The forced inhalation of carbonic acid gas has seemed applicable to the cases studied by Porter in the War Zone.

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[2] Boston Medical and Surgical Jour., Dec. 14, 1916, p. 857.

Surgical shock must be differentiated from the much discussed "shell shock" of recent literature. This symptom complex, so frequent in the trenches of France at this time, probably has been caused by deep exhaustion of mind and body from continued fatigue, and hysterical conditions in the psychologically infirm individual; and has been applied to various neuroses of traumatic origin. It is said that prisoners, who have been delivered by capture from the strain of trench life, and badly wounded men do not show "shell-shock."

SHOCK AND ANESTHESIA

C. L. Gibson says the wounded man at the advanced dressing station (British) "receives sufficient anodyne to make his journey to the next station (Casualty Clearing Station) comfortable, and it has been found that the generous use of anodynes prior to operation has a marked effect in diminishing shock."[3] There is less shock if compound fractures of thigh are thoroughly immobilized during transportation.

Anesthesia with ether should be preceded by fair doses of morphin. Five per cent. solution of picric acid may be painted on field of operation after cleansing with soft soap and water. This is cheaper and less irritating than tincture of iodin. Wounds of entrance and exit should be excised, laying open track of projectile and cutting away damaged and infiltrated tissue and wound washed out with antiseptic, often ether. Excision should be much as in cancer to get rid of damaged tissues and those into which blood has infiltrated.

Geoffrey Marshall[4] says that intrathecal administration of stovain is dangerous when used as an anesthetic for the recently wounded. In many cases its use is followed by a great fall of blood pressure and symptoms of cerebral anemia, such as pallor, vomiting, loss of consciousness and, perhaps, convulsions. The syncope is sometimes fatal. An analysis of fifty consecutive operations has shown in Marshall's opinion that it is the man who has lost blood and whose wounds are less than forty hours old to whom spinal anesthesia with stovain is dangerous. The patients had wounds of lower extremities, and the hemoglobin percentage was recorded before operation. The records seem to show that a low hemoglobin percentage is not followed by collapse after a late intraspinal anesthesia with stovain; but it is very apt to have such a formidable sequel when used early, say within forty hours of injury, should a low hemoglobin percentage show the blood diluted by hemorrhage.

Intrathecal stovain anesthesia produced a collapse in shocked patients which neither strychnin nor pituitrin were able to combat, nor did preliminary injection of strychnin prevent this collapse. The most satisfactory preventive was to have the head of the patient low and the feet high. This posture may be given the patient with safety, Marshall says, by waiting fifteen minutes after the stovain lumbar injection.

Marshall further states that a man suffering shock from a recently shattered limb which must be amputated, is a very unfavorable subject for general anesthesia. He advocates, for a reduction of mortality, rest in bed and hot bottles or a hot air bath. He says morphin should be given only in small doses or withheld.

Gas and oxygen are so much safer than any other anesthetic, in his opinion, that "no other is justifiable."

His statements are that with chloroform the man's condition will deteriorate and he will not rally; that with ether, by inhalation, the patient's condition may improve and blood pressure rise during operation, but collapse will occur within two hours. Intravenous use of ether may be followed by a more striking temporary improvement, but the subsequent collapse will be deeper and the fatal result more frequent.

Geoffrey Marshall speaks of shock in the wounded as a condition which evades exact definition. Its causes, he says, are almost invariably injuries which are severe from involving important structures or from having invaded extensive areas of tissue. The symptoms in a typical case are a dusky pallor of the face, flickering or imperceptible pulse, low surface temperature, and repeated vomiting, with little mental disturbance. The patient may be fully conscious and intelligent up to within a few minutes of death. The blood pressure, when taken in the brachial artery with a Riva-Rocci sphygmomanometer, is often higher than would be expected from the character of the pulse as determined by palpation of the radial artery at the wrist. When the shock symptoms are profound, the systolic pressure is usually below 80 mm. of mercury. The blood in the capillaries of the extremities is dark and of a cyanotic color. He has found in shock cases without hemorrhage blood more concentrated than normal.

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[3] Scribner's Magazine for May, 1918, p. 598.
[4] See British Surgery at the Front, p. 48.

Shock should be lessened by treatment before even urgent operations are attempted. External warmth commonly produces definite improvement. It should be associated with rest in bed. Gradually the temperature rises, the color improves, and the arterial blood pressure goes up. I believe that time is an important element in obtaining this improvement.

According to Marshall, subcutaneous infusion of saline solution produces no measurable effect in this type of shock. This is shown by the fact that, if death occurs so late as thirty hours after such injections, most of the solution will be found still unabsorbed in the subcutaneous tissues. Even intravenous injection of normal saline solution given before operation is of little value. It may cause a temporary rise of blood pressure and slow the pulse rate, but it does not prevent the occurrence of further shock from the operative attack. The blood pressure falls at the moment operation is begun.

Transfusion of blood done towards the end of an operation is beneficial. Hypertonic saline is better than normal saline solution. These remedies thus given cause a more lasting elevation of blood pressure with slowing of the pulse. Marshall ventures no opinion as to the value of artificial viscosity given to the transfused solution.

That patients in serious depression from sepsis stand anesthesia and amputation better than those depressed by shock is the experience of Marshall. This is in accordance with the opinion of general surgeons. The septic cases, he thinks, do well under anesthesia from gas and oxygen; and that warm ether vapor by inhalation or intravenous ether, are comparatively safe. Chloroform, he says, should be avoided, even in septic cases.

These deductions of Marshall may, perhaps, be drawn without sufficient recognition of the variation in the degree of shock which existed in cases studied by him.

LIMITATION OF SHOCK DURING OPERATION

It must be remembered that in warfare the evidences of shock in the wounded man may be greatly increased by exposure after injury or by fatigue, anxiety and want of food prior to battle. Cold, loss of blood, pain and mental depression, while lying on the field of combat exposed to the elements and to repetition of injury, and later the distress of transportation must deepen the depression of vital forces. Time is, therefore, an important factor in comparing cases of shock, whether one be studying the symptoms or the relative value of methods, of treatment.

Warmth and rest are more important than food; but the last in small quantities and easily assimilated has a bearing on the reaction from shock. Time is of supreme value in the opinion of many experienced surgeons.

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SOME THEORIES OF SHOCK *

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I shall make some remarks on some theories of shock which now occupy the attention of physiologists and surgeons; I intend to discuss them from a practical point of view. I shall first take up the theory of acapnia. It assumes that shock is due to a diminution of carbon dioxid in the blood of patients in shock. This assumption suggests at the same time the treatment; it consists in having the patient breathe some carbon dioxid, or let him respire through a long tube or, as it is called for short, rebreathing. The theory of acapnia as the cause of shock is about ten years old; it was brought forward by Dr. Yandell Henderson. Some years ago at a meeting of Section K of the Association for Advancement of Science the theory was discussed adversely by several physiologists. The occasion lingers in my memory. Among other things, I said that, even if the statement that carbon dioxid of the blood is decreased in shock would be generally confirmed, the fact of the reduction of carbon dioxid could not prove the correctness of the acapnia theory. The reduction of carbon dioxid may merely be a consequence of shock and not the cause of it. In shock the activities of the body are greatly reduced, which necessarily leads to a diminished oxidation of the tissues of the body and, consequently, to a diminished production of carbon dioxid. Professor Macleod asked me then how the therapeutic action of rebreathing on shock could be explained, if acapnia is not the cause of shock. In reply I said that a successful treatment of a disease,

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

by a method which was devised on a certain assumption of the nature of the cause of the disease, never proves that the assumption is necessarily correct.

Now, in a recent editorial of the *Journal of Laboratory and Clinical Medicine,* Macleod says that "the acapnia theory of shock was dignified some eight years ago by an apparently adequate burial," and he does not think that the new experiments of Henderson and Haggard are capable of resuscitating it. More important are the following facts: Henderson and Haggard themselves seem to think now that breathing of carbon dioxid may do some good in cases in which, in all probability, the patient would have recovered slowly without the treatment. Furthermore, Geoffrey Marshall, an expert anesthetist, is of the opinion that rebreathing is rather a dangerous procedure and surely ought not to be used in shock patients. Acapnia and rebreathing die hard, but as far as the science of physiology is concerned, they are surely dying. It is regrettable to find that rebreathing has a strong hold on the minds of many surgeons and anesthetists in this country. I, therefore, believe that it is a practical act to call your attention to the views now prevailing in physiology regarding the acapnia theory.

Then I wish to discuss another phase in the physiology of shock. Low blood pressure is a predominant symptom of shock. For at least six decades physiologists firmly believed that low blood pressure was accompanied by a relaxation of the peripheral small blood vessels which leads to the accumulation of the greater part of the body's blood in the vessels of the abdominal viscera. In recent years the assumption gained the ascendency that in shock the peripheral blood vessels are contracted.

Some time ago, in a paper presented before the Massachusetts Medical Society, Dr. Cannon of the Harvard Medical School explained the accumulation of the blood in the vessels of the abdominal viscera in shock, by the assumption that the blood was trapped there between the contracted mesenteric capillaries and the capillaries within the liver, and he thought that an intraperitoneal injection of pituitrin would be an advisable method of treatment of shock. While in England Dr. Cannon met a number of surgeons who stated that they had never found the vessels of the abdominal viscera to be engorged in shock. He then dropped his previous conception of shock as well as his therapeutic advice. In England and in France Dr. Cannon had occasion to study shock experimentally as well as clinically. He became converted to the theory that the most essential factor in the production of shock is acidosis and began to advocate the treatment of shock by the administration of bicarbonate of soda. You are probably familiar with his extensive articles on shock which appeared last winter in *The Journal of the American Medical Association.* He experimented together with Professor Bayliss, who previously recommended the intravenous injection of a 6 per cent. solution of gum acacia for the treatment of shock. Now both scientists recommended that this gum acacia should be given in a 4 per cent. solution of bicarbonate of soda. Recently, the theory of acidosis as the primary cause of shock lost ground. Bayliss himself gave up the idea that acidosis is of primary importance in shock, and he, as well as others, lost faith in the value of the alkaline treatment of shock. This is again a practical fact which may not be known to some of you.

I now come to the theory that shock is produced by pulmonary fat embolism which received a great deal of popular attention and to which Dr. Roberts referred in his paper. I do not wonder that Dr. Roberts mentioned the *Atlantic Monthly* as the source of information regarding this theory. The article of Professor Porter in the well known monthly reads, indeed, like a most attractive novel. The sentences are crisp and the style and manner of presentation are most attractive. But in science and in practice of medicine we are more interested in the truth and the practical value of the facts than in the beauty of their presentation. There is much in Dr. Porter's statements which we may readily accept. No doubt there are cases in which fractures of the long bones or injuries to fat tissues lead to pulmonary fat embolism and to a dangerous, and even to a rapidly fatal fall of blood pressure. But these facts are in no way new. They were excellently presented five years ago in a monograph by Professor Warthin in the *Journal of International Clinics.* If you want to know something about that subject, read that monograph. I believe that if Dr. Porter would have read that monograph before he started on his quest, his investigation would have taken another course. But do these facts prove in any way that cases of shock are due to pulmonary fat embolism? Dr. Porter himself admits that shock brought about by injuries to the abdomen may be due to "change in the hydrostatic conditions of the circulation" in the abdomen and not to fat embolism.

Porter's statements are more important to us when we come to discuss them from a clinical point of view. The casuistic is very meager; Porter refers to only five cases. There is no description of the details of their clinical manifestations. Low blood pressure is the only sign which is mentioned as evidence of shock in these cases. But is this the way clinicians would make a diagnosis of pulmonary fat embolism? That grave condition presents a number of definite clinical symptoms outside of the presence of low blood pressure. There are, in the first place, symptoms which point directly to the lungs as the seat of trouble. The patient is suffering from air hunger, dyspnea; pulmonary edema, and even hemoptysis is frequently present. On auscultation the presence of râles may be discovered. Then there are indications of the presence of fat in the circulation in abnormal quantities. The urine contains fat globuli. Fat may be readily detected in a drop of blood. Moreover, even the sputum may reveal the presence of fat. There are then many clinical signs which point that the shock-like condition of the patient is being due to pulmonary fat embolism. Dr. Porter does not mention in his articles that he availed himself of these signs.

The clinical distinction between shock and pulmonary fat embolism is important, especially from the therapeutic side of the question. Porter recommends the inhalation of carbon dioxid for the treatment of shock and claims that he has helped many such cases by this treatment. He administers carbon dioxid not for the purpose of meeting the possible exigencies of acapnia, but for the purpose of producing deep inspirations, which, according to him, would help to "drive the blood from the engorged abdominal veins into the chest where it shall fill the half empty heart and permit the faithful organ to fill the capillaries." Now Wiggers is certainly right, when he says that, if the circulation from the right ventricle is impeded by capillary emboli in the lungs, the introduction of larger quantities of blood in the right ventricle might lead to the dilatation of that ventricle and to death. According to Wiggers shock is distinguishable from pulmonary fat embolism by the difference of the pressure in the right ventricle and the pulmonary artery; in pulmonary fat embolism the pressure is rather high, while in shock it is low. Therefore, while in shock it is advisable to drive, by any effective methods, the blood from the veins of the abdominal cavity into the right ventricle, this procedure has to be avoided in cases of pulmonary fat embolism. There are physiologic apparatus for establishing the pressure in the right ventricle and in the pulmonary artery; but they are too complicated to be of practical use at the bedside in most of the clinical cases. There is, however, a very simple method, recommended by von Recklinghausen, to which I wish to call your attention; it ought to be known to and employed by every physician. One hand of the patient rests on the bed while the other hand is placed on the patient's thigh. When the pressure in the right heart is normal the veins of the hand resting on the bed are filled up, while those of the hand lying on the thigh are more or less empty on account of the fact that this hand is lying on about the same level with the heart; the contents of its veins, therefore, enter readily into the right ventricle. However, if the pressure in the right ventricle is above normal, the veins of the hand lying on the thigh cannot empty themselves with ease into the right ventricle. In this case the veins of both hands are filled up.

Professor Porter is one of the leading men who helped the development of the science of physiology in this country. Furthermore, his present attractive articles on shock have merits which I readily acknowledge. As a friend of Professor Porter it is to me an unpleasant performance to criticize his contributions to our knowledge of the nature of shock and its treatment. But I feel that I owe a duty to the science and practice of medicine in our country to state frankly to my brothers in medicine my estimate of Porter's theory of shock as well as of his therapeutic advice; I believe that neither of them rendered a practical service to medicine.

What I just said regarding the expression of my views on Professor Porter's theory is true of my criticism of all the three theories. The men who propounded them are leading figures in physiology of this country. I am proud to claim to be their friend. Moreover, I thoroughly dislike to do destructive work; however, the work I tried to perform is not destructive, it is meant to be reconstructive. It is an appeal to physiologists, when they undertake to apply their scientifically trained minds to problems of practice of medicine, to adhere firmly to the careful critical methods which they are in the habit of employing in their physiologic researches, even if by doing so, as a consequence, the actual yield to medicine may be slow and, perhaps, even small. It is also an appeal to clinical men to imbibe well-established new physiologic facts, but in the application of these facts to stick closely to well-established, careful clinical methods.

Rockefeller Institute.

DISCUSSION

ON PAPERS OF DRS. GUTHRIE, ROBERTS AND MELTZER

Dr. William L. Estes, South Bethlehem: I said to Dr. Roberts that I did not know anything about this subject, and it is true except in a very practical way. I am comforted to hear Dr. Guthrie say that the theories of shock have none of them been proven, not sufficiently to accept and recommend any line of theoretical treatment. Our friend, Dr. Meltzer, who has done so much in this line, is a little bit uncertain whether to adopt one theory or another. He is with Porter occasionally and with Cannon occasionally and with neither of them occasionally, all of which goes to show that he himself is uncertain. But there are certain definite practical observations which go with the condition which we call "shock," about which it seems to me that as practical men we ought to know. We ought to employ the means which have been found of value in restoring patients. Dr. Roberts speaks of his theory of fat embolism. There are some phenomena in shock that would suggest this conclusion, but these phenomena are just before death as a rule and they belong to the condition which Dr. Guthrie calls collapse; collapse not only of the heart function, but of every other part of the body. It seems to me that undoubtedly one of the largest practical factors in shock is the blood pressure. I am not a physiologist and do not know the theoretical reasoning for such fact, but as a practical man I have thought it loss of blood and general exhaustion of the nerve centers, as Crile has taught us.

These cases of shock come to me and have for years in a condition which very nearly would be that in which the soldier would come to the evacuation hospital. Men have been brought long distances after a period of hard labor—and, by the way, there is a suggestion in that. I venture to say that those of you in industrial or military work who note the conditions following serious injury without previous hard work or physical endeavor which would exhaust the patient, find the condition is very much better and more satisfactory to treat. Men who have been working for a period of hours previously are more liable to die from serious injury than those who have not.

Dr. Roberts has given expression to one of my beliefs regarding treatment; that no serious surgical operation should be undertaken during the period of extreme exhaustion which we call shock. I have deferred operation with the precautions which Dr. Roberts mentions, absolute control of hemorrhage, pressure over crushed tissue, not over good tissue, heat, elevation of the foot of the bed, injection of saline solution. I have come to believe that the injection of saline solution by venous process is of doubtful value, unless it is done by a very skilful and practiced man. It will not do to allow an intern with only the ordinary experience to do this work. I have seen a number of men killed by the improper introduction of saline material into the blood. It is done too rapidly and in most cases done in a mechanical way, without any thought of the immediate effect on the patient. The procedure requires much skill. I was going to say that I believe introduction of saline into the rectum is one of the most valuable methods of restoring the fluid and it ought to be as warm as can be comfortably borne. I think the sphlanchnic stimulation has something to do with the effect. At present our procedure is the control of hemorrhage, warmth, externally and by hot drinks, if the stomach will bear them, and the introduction of salines with bicarbonate of soda added to the normal saline in the proportion of about one-half gram to a liter given almost continuously by the rectum, if the patient will bear it. With strychnin, camphor seems to be the best means which we have employed.

Dr. Oskar Klotz, Pittsburgh: Some important points have been brought out in the papers on "shock," and I am sure the members who have had the pleasure of listening to these contributions are able to carry away a clear conception of this difficult problem. From what has been told by Dr. Guthrie and Dr. Meltzer it seems evident that the problem of shock, as studied in the laboratory, is not necessarily identical with the problem of shock in man. Now as the problem of shock, from a practical standpoint is clearly a "human" problem, we must be careful and avoid drawing too hasty conculsions from our laboratory experiments. Furthermore, the study of shock in man offers many difficulties. The study on the subject is undertaken when shock has already been established. The changes which have taken place prior to the state of shock can no longer be studied, and we are able to study only the pathologic physiology of the "state of shock." So it would seem that if acidosis is encountered in the blood of an individual in the state of shock, this condition must be viewed as an effect rather than a cause of shock. The same may be said of other findings, or at least the burden of proof must still rest with the exponents of the many theories. We have had an opportunity of studying some of the tissues from animals with induced shock. These were obtained through the kindness of Dr. Guthrie. We have not been able to demonstrate fat embolism as claimed by Dr. Porter.

Dr. Guthrie, closing: Regarding the point of difference in our work and that of others mentioned by Dr. Meltzer as to an increase of blood volume in shock and not a decrease, I would like to state that the results are based on our experimental findings, and that the animals were always subjected to a certain amount of hemorrhage. The term we used was "relative" blood volume. After induction of shock there was a decrease in the hemoglobin percentage which could be accounted for only on the assumption that liquid entered the blood vessels. Whether this applies to shock in the various forms in man remains for investigation. But under the conditions of our experiments liquid enters the blood as shown by dilution of the hemoglobin.

I am glad to see that the surgeons do not pin too much faith on saline. Under certain conditions brilliant results may be obtained with saline, but with an animal in a state of collapse it is of little value. From reports, it would seem that acacia-saline solution is preferable.

I regret, particularly in view of what some of the other speakers said regarding the danger of inducing shock if the patient is in poor condition, that Dr. Meltzer did not speak of his views regarding what he terms "factors of safety" and susceptibility to shock. We have employed a similar conception, using the terms functional state and reserve or total capacity. With an animal in good condition there is a large factor of safety or reserve functional capacity. If, however, at the time stimulating measures are applied the reserve is small, it is quickly exhausted and the animal may die from comparatively slight manipulation.

I would emphasize that measures of prevention should be employed which have for their object the elimination of nerve impulses and the lessening of demands on nerve tissue whether of psychic, somatic or sympathetic character.

DR. RORERTS, closing: It looks to me as if the first thing for a practical surgeon to do (I am following Dr. Estes) is to delay operation in traumatic cases; stop bleeding, give heat, let the man sleep with morphin, and, as I have said, wait. Rest, heat, delay. Let other people keep their hand off while you sit by the man's side, and every half hour take the blood pressure and pulse and reject the advice of the too overzealous resident physician. I am glad to hear Dr. Estes say that which my preceptor, Dr. Levis, said when I was young, namely, that the best way to get heat into the body was to give hot water by the rectum where it would be slowly absorbed. When Dr. Meltzer tells us there is not a great accumulation of blood in the abdomen during shock, it seems to me that hot water in the rectum is one of the very satisfactory measures of applying heat to the shocked patient. Now, since hearing what Dr. Estes and Dr. Meltzer have said, I think there will be a great deal of hot water allowed to flow into the rectum of the shocked patient in the hospital under my charge.

I do not like strychnin in shock, except in small doses. I have seen my gynecologic friends use a good deal of strychnin after operations; but I do not approve of it as a routine in full doses. It is like driving an exhausted horse with the lash up a steep hill. A little urging may help a tired horse and a little strychnin may help a shocked patient; but many overdo the matter, I fear. I do believe in atropin and morphin injections before operations; I prefer after operations, codein and hyoscin, because they do not upset the secretory functions as much as opiates. I was delighted to hear Dr. Meltzer say he did not attribute shock to fat embolism, to acidosis or the deficiency in alkaline reserve. I like the physiologists to tell me these things, because, in my ignorance, I have been afraid to condemn them.

THE BLOOD PRESSURE QUESTION FROM THE STANDPOINT OF THE GENERAL PRACTITIONER *

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There are few subjects about which more has been written in the past fifteen years than this, and yet we are not yet arrived at the point at which it may be said that all its phases have been grasped. Without doubt, many conclusions were reached which have been found to be at least in part fallacious, and many ill-founded or erroneous statements as to prognosis and treatment, in individual cases, have been made. The difficulty has been that some physicians are too much inclined to rest a diagnosis on one single factor, whereas in every patient a correct diagnosis never can be reached until all the facts have been put together and each given its proper relative value. This tendency is seen in all parts of medicine, as, for example, when a positive Wassermann report leads the physician to believe he has discovered the true cause of a train of symptoms, when in reality the dormant syphilis has nothing whatever to do with the present manifestations. The first point I would like to emphasize is, therefore, that the result of a blood pressure examination be taken only as a part of the picture, of no greater, if as great, importance as other parts.

Another point is that a moderately high pressure with a low specific gravity of the urine and many hyaline casts is far more important than a very high pressure with a urine which is practically free of casts. A third point is that too much stress is placed on one blood pressure estimation, just as too much is placed on a single urine analysis; only by several estimations can an average or standard of the patient's pressure be obtained, for at the first estimation the psychic factor may cause a rise of pressure fifteen or twenty points greater than the average. A fourth point is that high estimations made in the office will often be found, even if taken frequently, to be far above what they are when the patient is seen at home in bed, or in a chair, and so an erroneous view of the pressure constantly present is obtained.

Again, if the pressure be taken and retaken in a few minutes at the same sitting, the true or approximately constant pressure will be shown by the second estimation, the first being often ten or fifteen points higher than the last.

Sixth, the common practice of estimating the systolic pressure without the diastolic pressure is to be condemned because it is the least important of the two estimations, for the diastolic pressure tells us of the constant pressure by means of which the circulation is really maintained, tells us not only that it is too high, or too low, but what the demands on the heart amount to. A high diastolic pressure subjects the heart to hard work, but the fact is often overlooked that a pressure which is too low is much worse for the heart muscle, which soon exhausts itself in the attempt to raise pressure at a time when a low diastolic pressure is causing an inadequate filling of the coronary arteries.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

A pressure above normal may be present for years without trouble. A pressure below normal may cause disaster in a few hours.

When the diastolic pressure is substracted from the systolic we get an idea of the actual cardiac power. No better illustration of this can be found than the great difference in systolic and diastolic pressure in aortic regurgitation when the difference is often 100 points if the characteristic hypertrophy of the heart in this disease is present.

The estimation of the systolic and diastolic pressures also tells us how much reserve the heart muscle possesses if we use the stair climbing or hopping tests.

Again, the diastolic pressure, if high, indicating rigid vessels, tells us that the heart burden is not only increased because the heart must pump harder to drive the blood through rigid tubes, but also because the normal elasticity of the vessels is a great aid in the propulsion of blood. An animal's heart attached to a set of rigid tubes tires out rapidly because of this fact. That is to say that Ludwig and Brunton showed, years ago, that the elastic tissue and the muscular coats of healthy vessels are active agents in urging on the blood. Without doubt the failure to yield, on the one hand, and the lack of pulsation on the other, which helps the heart, is the chief reason why men in middle life with perfect hearts cannot run as in youth without dyspnea.

This brings me to a theme which I insisted on some years back, namely, that as a man grows older a rising pressure both systolic and diastolic is necessary to his normal existence so far as the function of his vital organs is concerned. These organs cannot get enough blood if the so-called normal pressure of about 135-90 is present. He has established for himself what I have called a "pathologic norm," a contradictory term which is nevertheless accurate.

Not infrequently one sees cases in which the physician, with good intent, succeeds in reducing pressure to the average level only to find that the patient is far more miserable than before treatment. It may be, in a given case, that the pressure is too high for the saftey of the heart or of the vessels, but this does not mean that we should endeavor to force it to the theoretically normal level for a man of thirty years of age. In each case the physician must endeavor to reduce the systolic and diastolic pressure sufficiently to relieve stress and also endeavor to increase the difference between the systolic and diastolic pressures, if this be abnormally low, as for example, only fifteen to twenty points between systolic and diastolic, indicating actual cardiac weakness or fatigue. It is in these cases that electric cabinet baths, massage and the alternatives do far better than the nitrites, as a rule, if the former agents are cautiously and skilfully employed.

There are two points in aortic regurgitation to which I wish to call renewed attention.

If the patient with an aortic regurgitation lies prone on the back, it will be found that there is always a wide difference between the blood pressure in the brachial artery and the vessels of the leg. This difference in pressure may be as much as 100 points in cases where the systolic pressure in the leg is characteristically high. Of course, there is a great difference in all persons between the pressure in the arm and leg, if they are sitting up or half reclining. The patient must be prone, as I have stated, to make this sign of any value. Another interesting point in connection with the difference between the pressure in the arm and leg in aortic regurgitation is that the administration of a hypodermic of nitroglycerin will bring the pressure in the leg and arm to approximately the same point. In other words, the nitroglycerin by relaxing the vessels in the lower extremities reduces their high pressure more than it reduces the pressure in the arms. Furthermore, if a patient with aortic regurgitation does not receive nitroglycerin but has his lower extremities placed in a hot pack, the same reduction of excessive leg pressure occurs, so that the great difference between the arm and leg pressure characteristic of this lesion no longer exists.

It is always unsatisfactory not to be able to give a physiologic explanation of interesting phenomena of this character. One would suppose that if nature was endeavoring to compensate for leaking aortic valves there would be a fall in pressure rather than a rise, since by this means the stress on the aortic valve would be diminished and the degree of regurgitation decreased. Again, if it be thought that the high pressure in the legs is designed to prevent too much blood from going to these parts so that the vital centers and the heart would be deprived of blood, one would suppose that when the patient was lying prone the systolic pressure in the arms and legs would be identical, or again, that the reduction of the high pressure in the legs by the use of nitroglycerin, or the hot pack would induce a sense of dyspnea or faintness. I have tested these facts in regard to aortic regurgitation in a large number of cases and I have never found a case of any other valvular lesion of the heart present these signs which are far more constant than the capillary pulse and as constant as the Corrigan pulse.

1801 Spruce Street.

THE RESULTS OF TESTS FOR FOOD PROTEIN SENSITIVENESS IN A SMALL GROUP OF ASTHMATICS *

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Asthma, or spasmodic paroxysmal dyspnea, has been and still is being investigated by a great number of clinicians and laboratory workers. Let us glance briefly over some aspects of the history of the clinical pathology of asthma.

John Forbes,[1] quoting Willis, Hoffmann and Cullen, agrees with these authorities that "the asthmatic fit consists essentially in a spasm of the muscular fibers of the bronchi."

Sir Andrew Clark[2] "explains the phenomena of an attack by a vasomotor neurosis, by which changes analogous to those of urticaria on the skin are produced.

Goodhart, in Allbut and Rolleston's system,[3] cites this theory, only to reject it on the ground that "the existence of vasomotor nerves in the lungs is problematical."

American support of the vasomotor theory is strongly given by L. Duncan Bulkley,[4] who notes especially that many persons applying to him for treatment of urticaria are subject to attacks of asthma, and that the regimen which controls the urticarial paroxysms is often effective in controlling also the asthmatic attacks.

Williams, in Tweedie's Dissertations of Diseases of the Organs of Respiration, 1841,[5] describes two forms of asthma, a spasmodic, and an atonic or paralytic form. He found that "defect of these properties (excessive contractibility of the bronchial tubes) would disorder the process of breathing," and is led to believe that "there may, perhaps, be a nervous asthma or dyspnea from weakness or paralysis of the circular fibers, or of the nerves which regulate their contractions."

S. Solis-Cohen, in a paper read before this society,[6] says: "Clinically, four varieties of asthma may usefully be differentiated. Still further refinement and subdivision is possible, but at present of no especial advantage." The varieties referred to are: (1) Asthma dependent on deficient regulation of vasomotor tone in general (the condition which he has denominated (1892) *vasomotor ataxia,* or more recently, "autonomic ataxia," or instability); (2) asthma dependent on spasm, whether of the bronchial muscles or of the bronchial vessels; (3) asthma associated with chronic bronchitis and emphysema; (4) asthma dependent particularly on nasal or nasopharyngeal obstruction and irritation—often reflex in mechanism. "These divisions," he says, "are not coordinate either pathologically or etiologically; but they indicate the direction in which therapeutic measures are to be applied."

Solis-Cohen further points out, in his monograph on the "Visceral Angioneuroses,"[7] that three conditions are necessary to the development of the visceral crises, including that of asthma, whether vascular or muscular. These things are: first a constitutional liability, usually hereditary, and manifested in some way not only in the patient, but also in members of his family and related family groups; second, an excitant, or irritant, which may be physical, chemical, or emotional, and if toxic, either of endogenous or exogenous origin; third, a local determinant, which is usually of a physical nature, such as trauma or structural peculiarity, or a reflex nervous stimulus. In asthma we often find structural peculiarities or pathologic alteration in the nose or nasopharynx, or the exciting irritant itself often enters by way of the respiratory tract. Often there are conditions which may excite *reflexes* in the respiratory tract, such as nasal polyps, glandular enlargement in the pharynx, or other conditions that may irritate the sympathetic ganglia connected with the respiratory tract. In other cases perverse action of the endocrine glands is demonstrable.

The clinical pathology, according to Solis-Cohen, sums up thus: First: undue contraction of the blood vessels in the bronchopulmonary tract; or, second, undue relaxation of blood vessels in the bronchial tract, a hyperemia or an urticaria-like swelling — in effect, bronchial erythema or hives; third, a spastic contraction of the bronchial muscles, which may be associated with either form of vascular disturbance. The irritant or causa excitans, while often special to the individual, and the same in many individuals, is not specific to the affection. Some individuals respond to a number or irritants.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

[1] Cyclopedia of Practical Medicine, Dunglison's Revision, Philadelphia, 1858.

[2] American Journal of Medical Sciences, Philadelphia, 1886, xci, p. 104.

[3] London, 1909, p. 54.

[4] On the Relation of Diseases of the Skin to Internal Disorders, New York, 1906, p. 66.

[5] Quoted by Freudenthal, New York Medical Journal, Jan. 6, 1917, p. 2.

[6] Penna. Medical Journal, November, 1904.

[7] New York Medical Journal, Feb. 10 and 26, and March 5, 1910.

Curshman[8] describes asthma as a chronic exudative bronchiolitis. Strumpel[8] includes it in the eosinophilic diathesis and terms it an acute noninflammatory hyperemia of the medium-sized bronchial tubes. Krehl[8] goes further and says: "The most acceptable explanation accounting for all the phenomena of the paroxysm is that of a spasm of the smooth muscles of the fine and medium-size bronchioles superimposed on inflammatory or vasomotor swelling of the mucous membrane;" or, in short, inflammatory spasm and vasomotor swelling, which he thinks also fits in well with the anaphylactic shock of modern investigators.

Freudenthal,[9] in his historical review of bronchial asthma, cites the various theories set forth over a long period, and states as his own opinion: "Every patient suffering from asthma has both varieties: a spasmodic form of attack during the paroxysm and an atonic condition at intervals." Meltzer[9] thinks that the evidence tends to prove that asthmatic patients are sensitized to certain substances and that an asthmatic attack sets in every time that substance happens to enter the circulation.

Adams of Glasgow,[10] believes that imperfect metabolism, leading to toxemia, produces asthma, and illustrates the theory by the week-end asthma in working men associated with the overfeeding and underexercise of the week-end. "Asthma cannot be cured when much milk, raw or boiled, is taken, being in many, if not in most cases, a toxemia owing to want of adaptation of food not only to the needs, but to the biochemical peculiarities of the individual."

Its essential treatment, according to Adams, is obvious: "Two days of no eating, or voluntary fasting of the asthmatic during his paroxysm." This was practiced by Adams with success in many cases.

In searching for the excitant of asthma, attention has been called especially by a group of investigators at the Peter Bent Brigham Hospital of Boston (Woodhouse, Walker, June, Adkinson, and others) to foods, certain bacteria, and the hair of domestic animals.[11]

I had the opportunity to repeat, through the kindness of Prof. S. Solis-Cohen, the investigation of protein sensitiveness. All the proteins used in this study were bought from a commercial house, and their preparation is stated to have followed the technic of the Brigham Hospital. Skin tests are employed to demonstrate the sensitization of the patient to the various proteins. (A scratch is made in the skin, and the protein applied, together with a very dilute solution of sodium hydroxid, and the reaction observed.) Reaction manifested by an urticarial wheal, or a large area of erythema is to be considered positive if occurring within five to twenty minutes. Those reactions which do not differ from that surrounding the control cut, on which a solution containing no protein is placed, are to be called negative.[11]

The reactions of twelve patients were tested to the following food proteins: Egg yolk, egg white, milk, casein, cheese, herring; beef, chicken, lamb, pork; wheat, rice, potato, barley, cocoa; radish, beet, cabbage, onion. Also horse serum, and cat's hair, dog's hair, horsehair.

None of these patients exhibited a positive reaction, with the exception of one woman, who showed erythema and a slight wheal, to pork, to cabbage, to rice and to radish. The patient's own statement corroborated the test thus far, that these foods always aggravated or brought on an asthmatic attack; but although she had excluded them from her diet for the last ten years, she is still subject to recurrences of asthma. These evidently are not the only excitants in her case. The other asthmatics tested could not give a definite statement as to the effects of any particular food on their paroxysms.

The benefit to the patient from these negative tests is that we may allow them more liberty in their diet and that they need not fear contact with the animals mentioned. It still leaves the irritant undetermined. When tests are positive, exclusion and then desensitization are to be practiced.

While this group of asthmatics has not responded to the protein skin sensitiveness tests, six patients, or 50 per cent., were benefited by subcutaneous injections of gradually increasing doses of foreign vegetable proteins. The results of this line of investigation I may have the opportunity to report in the future.

SUMMARY

In this series of a small group of patients with bronchial asthma, from the Jefferson Hospital O. P. D. Clinical Medicine, only one case was found to be sensitive to the proteins derived from staple foods of the animal and vegetable kingdom.

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[8] Krehl's Clinical Pathology, Trans. by Beifield, Lippincott, Philadelphia, 1906.

[9] New York Medical Journal, Jan. 6, 1917, p. 2.

[10] British Medical Journal, Jan. 26, 1918.

[11] Journal of Medical Research, January, 1917.

I wish to express my thanks to Dr. S. Solis-Cohen for the moral support and permission of his clinical department for this line of investigation.

1531 North Sixth Street.

DISCUSSION

Dr. Gordon J. Saxon, Philadelphia: Of particular interest to me in this connection is a point which Dr. Sterling brought out, the transmission from generation to generation of certain of these asthmatic stigmata.

I have in mind a case which illustrates this point as well as that of sensitiveness to proteins; it was a child of ten months of age into whose diet egg had been introduced. Half an hour after taking the egg the eyes became swollen shut, the lips were swollen to twice their normal size as were also the heels. The child was cyanosed and there were present a pronounced dyspnea and marked râles in the chest. The case proceeded to a very grave state of affairs. I happened to be present and it looked for a few moments as if the child would certainly die. Atropin was administered and within half an hour the râles had disappeared, the color was restored, breathing was normal and the swelling had subsided.

Several such cases had been reported in the literature. It is of interest in connection with this case that the mother is a victim of hay fever, having a sensitiveness to the early grasses and roses; the grandmother likewise, and likewise also the great grandmother. The mother of this child has had an immunity conferred on her by the gradual introduction of pollen proteins, an immunity lasting for three years. It is by studies such as this which Dr. Sterling has made that our knowledge of the subject of food sensitiveness will become more and more nearly complete.

ONE HUNDRED CASES TREATED WITH AUTOGENOUS VACCINES *

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NEW CASTLE

Although vaccine therapy has been in use for several years, there seems to be considerable difference of opinion in regard to methods and effectiveness. It would seem that any report of work done in that line would help us to arrive at a correct estimate of the value of this form of treatment.

This report classifies the results in 100 cases taken consecutively as the patients came for treatment. The vaccines used were all autogenous and were made and adminstered by the author.

The pus was transferred directly from the lesion to culture media and the cultures incubated till a sufficient growth was obtained. An emulsion in salt solution was then made and heated at the minimum lethal temperature for the shortest possible time. The vaccine was then standardized so that $\frac{1}{10}$ mil contained the unit of dosage, which was in case of staphylococcus, 100 millions; streptococcus, 25 millions, and *Bacillus coli,* 50 millions. This unit was used as the first dose.

The optimum dose was considered as the amount necessary to produce a local reaction consisting of slight redness and a pea-sized lump without any general reaction. If the first dose did not produce such a reaction in twenty-four hours, a second dose was given with an increase of $\frac{1}{10}$ mil, and this was repeated daily until the desired reaction was obtained. After a satisfactory reaction occurred the next dose was deferred until the reaction had almost completely subsided when the same dose, or one slightly larger was given. This interval was usually from five to ten days. Sometimes $\frac{1}{10}$ mil as the first dose would cause a reaction greater than desired and the next dose would be correspondingly smaller. Judging from results obtained we have decided that the small doses producing slight reactions are preferable and produce the best effects.

The cases are arranged in groups, and tables are shown giving the details.

ARTHRITIS

Name	Duration*	Remarks	Culture	No. of Doses	Results
1. Mrs. C. W.	6 wks.	Both feet involved after tonsillitis	Throat strep.	11	Recovery
2. Mrs. H. R. T.	4 yrs.	All joints of limbs involved after tonsillitis	Throat strep.	12	No improvement
3. Mrs. W. W. S.	3 yrs.	Hands and shoulders	Strep. from pus	14	Improved
4. J. S.	8 yrs.	Both feet after tonsillitis	Throat strep.	12	Recovery
5. H. A. R.	6 mo.	Many joints after tonsillitis	Throat strep.	6	Recovery
6. R. M. L.	4 yrs.	Both knees after tonsillitis	Throat strep.	51	Recovery
7. Mrs. J. C.	20 yrs.	Many joints, frequent tonsillitis	Throat strep.	11	Recovery
8. Mrs. W. J. W.	5 yrs.	Many joints after tonsillitis	Throat strep.	20	No improvement

* Duration before vaccine treatment.

All these cases had received extensive treatment of various kinds without relief. The percentage of cures is 63.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

ACNE

Name	Duration	Remarks	Cultures	No. of Doses	Results
1. G. S.	2 yrs.	....	Staph.	32	Recovery
2. Mrs. R. O.	15 yrs.	Severe	Staph.	35	Recovery
3. K. N.	10 yrs.	Severe	Staph.	31	Recovery
4. K. M.	10 yrs.	Severe	Staph.	32	Recovery
5. K. J.	5 yrs.	....	Staph.	24	Improved
6. P. H.	4 yrs.	....	Staph. strep.	51	No improvement
7. G. H.	10 yrs.	Severe	Staph.	13	Recovery
8. J. G.	6 yrs.	Severe	Staph.	41	No improvement
9. E. E.	5 yrs.	Face and body	Staph.	19	Recovery
10. J. L. C.	6 yrs.	....	Staph.	35	Improved
11. J. H. H.	6 yrs.	Very severe	Staph.	37	Recovery
12. J. L.	10 yrs.	Face and body severe	Staph.	10	Recovery

J. L. was an exceptionally severe case with large postules all over the body. He had undergone extensive treatment, medical, surgical and electrical. He improved after the second dose and the skin cleared up completely. Of these twelve cases 68 per cent. recovered.

ABCESS

Name	Duration	Location	Cultures	Doses	Results
1. H. S.	6 wks.	Many large abscesses of scalp	Staph.	3	Recovery
2. G. G.	6 wks.	Numerous abscesses all over body following extensive burns	staph.	10	Recovery
3. A. P.	6 wks.	....	Staph.	11	Recovery
4. D. A. P.	12 wks.	Numerous abscesses following carbuncle	Strep.	17	Recovery

These were all desperate cases and vaccine was tried as a last resort. D. A. P. was the worst case I ever saw. He was nothing but skin, bone and pus. He had a dozen or more large abscesses, one knee being extensively involved. There was a large amount of pus in the urine. After a diagnosis was made he was given three large transfusions and three doses of antistreptococcic serum. His general condition improved, but the abscesses continued to discharge and new ones to form. After vaccine treatment was begun the abscesses rapidly cleared up and he recovered completely, but with an ankylosed knee joint. These four abscess cases show 100 per cent recovery.

BOILS

Name	Duration	Number	Cultures	Doses	Results
1. R. G.	6 mo.	Many	Staph.	3	Recovery
2. W. E. W.	2 yrs.	Many	Staph.	6	Recovery
3. J. B.	Months	Many	Staph.	14	Recovery
4. S. A.	Months	Many	Staph.	5	Recovery
5. Dr. F. W. G.	Months	Many	Staph.	3	Recovery
6. G. I.	3 mo.	Many	Staph.	11	Recovery
7. J. B. G.	3 mo.	Many	Staph.	5	Recovery
8. R. A. R.	1 yr.	Many	Staph.	3	Recovery
9. D. L.	6 mo.	200	Staph.	18	Recovery
10. J. N. B.	3 yrs.	150	Staph.	29	Recovery
11. L. B.	2 yrs.	Many	Staph.	11	Recovery
12. W. G. D.	1 yr.	Many	Staph.	22	Recovery
13. G. E. E.	1 yr.	Many	Staph.	7	Recovery
14. J. T.	1 mo.	Many	Staph.	3	Recovery
15. T. B.	1 yr.	Many	Staph.	16	Recovery
16. W. S.	Months	Many	Staph.	5	Recovery
17. J. S.	Months	Many	Staph.	6	Recovery
18. C. S.	Months	Many	Staph.	5	Recovery
19. E. N.	Months	Many	Staph.	3	Recovery
20. H. M.	Months	Many	Staph.	16	Recovery
21. W. M.	Months	100	Staph.	12	Recovery
22. H. A. M.	Months	Many	Staph.	5	Recovery
23. D. M.	Months	Many	Staph.	2	Recovery
24. Dr. H. W. M.	6 mo.	100	Staph.	15	Recovery
25. J. M.	Months	Many	Staph.	5	Recovery
26. L. L.	Months	Many	Staph.	6	Recovery
27. J. K.	Months	Many	Staph.	7	Recovery
28. H. H.	Months	Many	Staph.	7	Recovery
29. H. F.	Months	Many	Staph.	5	Recovery
30. J. F.	Months	Many	Staph.	2	Recovery

These thirty cases of boils were all of the obstinate variety and had received treatment of many kinds, both local and internal. Quite a number had been treated with stock vaccines and yeast. All of the patients recovered, 100 per cent.

CARBUNCLE

Name	Duration	Location	Culture	Doses	Results
J. O. W.	2 weeks	Neck	Staph.	6	Recovery
H. M.	Frequent for 3 years	Neck	Staph.	11	Recovery
V. W.	3 weeks	Back	Staph.	4	Recovery

Three severe carbuncles recovered, or, 100 per cent.

ENDOCARDITIS

Name	Duration	Serverity	Culture	Doses	Results
E. B.	3 wks. after tonsillitis	Very severe	Blood, neg., throat strep.	5	Recovery
J. B.	2 wks. after tonsillitis	Moderate	Strep.	10	Recovery

One of these cases was thought to be hopeless. Blood cultures were sterile, but cultures were made from the throat which had not entirely recovered from tonsillitis. The benefit from the vaccine was prompt and permanent. Recovery 100 per cent.

EYE INFECTIONS

Name	Condition	Cultures	Doses	Results
W. S.	Styes	Staph.	5	Recovery
N. M.	Styes	Staph.	12	Recovery
C. K.	Styes	Staph.	27	Recovery
D. M.	Styes	Staph.	10	Recovery
M. B.	Severe conjunctivitis, keratitis and cellulitis	Staph.	20	Recovery

The cases of styes were all of long duration. There was one case of eczema of a very extensive obstinate variety. A culture of staphylococcus was obtained from the lesions and after seven doses the skin was cleared.

EAR

Name	Duration	Discharge	Complications	Culture	Doses	Results
1. H. P.	3 yrs.	Profuse	....	Staph.	16	Recovery
2. P. M.	4 yrs.	Profuse	Skin excoriation	Staph.	18	Recovery
3. R. M.	20 yrs.	Profuse	Mastoiditis	Strep.	18	No impvt.
4. S. L.	50 yrs.	Profuse	....	Staph.	10	Recovery
5. C. J. L.	56 yrs.	Profuse	....	Staph.	7	Recovery
6. H. F.	7 yrs.	Profuse	....	Diph.	7	Recovery
7. I. D. C.	2 wks.	Profuse	....	Strep.	6	Recovery
8. W. W.	18 yrs.	Profuse	....	Staph.	3	Recovery
9. M. B.	2 yrs.	Profuse	Both ears	Staph.	20	Recovery
10. R. C. G. W.	2 wks.	Profuse	....	Staph.	10	Recovery
11. Mrs. H. D.	10 yrs.	Profuse	....	Staph.	22	Recovery

Nine of these cases were of long duration, the shortest two and the longest fifty-six years. The discharge was very profuse in all and had been very persistent; they had all received treatment for a long time. Of eleven cases ten recovered completely, the ears remaining dry, a percentage of 90.

There were two cases of chronic gonorrheal urethritis. Both cases had been treated for a long time without a cure. After the use of autogenous vaccine one case was cured, the other not improved. Two different stock vaccines were later used on this patient with no improvement.

INFECTION OF THE HAND

Name	Duration	Severity	Cultures	Doses	Results
1. W. J. T.	6 wks.	One finger had been amputated	Staph.	6	Recovery
2. J. S.	2 wks.	Moderate	Staph.	5	Recovery
3. Mrs. A. R.	6 wks.	Very extensive	Staph.	6	Recovery
4. J. M. P.	3 wks.	Moderate	Staph.	2	Recovery
5. Mrs. M. J. M.	2 wks.	Moderate	Staph.	5	Recovery
6. N. L. (80 yrs. old)	2 wks.	Very extensive	Staph.	5	Recovery
7. H. A. J.	2 wks.	Moderate	Staph.	7	Recovery
8. A. M. G.	1 wk.	Very extensive	Staph.	5	Recovery
9. M. B.	9 wks.	Very extensive	Staph.	2	Recovery
10. Dr. D. C. C.	4 wks.	Very extensive	Staph.	6	Recovery
11. Dr. D. C. C.	3 wks.	Second infection, one finger amputated	Strep.	3	Recovery
12. P. R.	2 wks.	Moderate	Staph.	3	Recovery

These cases of infection of the hand had all received good surgical treatment. The tissues had been cut freely and good drainage instituted with moist applications or immersion, but with no apparent amelioration of the condition. After the use of vaccines they all showed improvement and recovered promptly.

Dr. D. C. C. had a very extensive infection of hand and arm and was decidedly septic and seemed to be in a hopeless condition. His condition improved promptly after vaccine treatment and his hand and arm healed nicely. A few weeks after, infection again appeared and amputation was considered. Cultures showed a different causative organism from the first infection and a new vaccine was made and administered after the hand had been opened freely and one finger amputated. A prompt recovery ensued.

NASAL SINUSES

There were two cases of infection of sinuses discharging into the nose. They had both been thoroughly treated, but continued to discharge freely, one of them for six months. This case recovered after twelve treatments, the other less severe after five.

PYORRHEA

Name	Duration	Severity	Doses	Result
J. T.	1 year	Very extensive	4	Complete recovery
Mrs. E. G.	1 year	Very extensive	29	No improvement
Mrs. L. P.	Years	Moderate	15	Recovery

In the two cases which recovered there were several loose teeth which eventually became firmly tightened. In the other case there was no improvement whatever, although several different vaccines were made, and thorough dental treatment instituted at the same time.

RESPIRATORY CONDITIONS

Name	Cond. Pres.	Cultures	Doses	Results
A. J. W.	Large lung abscess	Strepto.	25	No improvement
D. J.	Asthma	Staph.-Strep. and diphtheroids	20	No improvement
W. C. B.	Hay fever	Strep.	14	No improvement

D. J. was tested with a large number of proteins, but did not react to any of them. In addition to our vaccine we used two autogenous vaccines prepared by Dr. Walker of Boston.

URINARY INFECTIONS

Name	Cultures	Doses	Results
C. L. M.	Staph.	13	Recovery
C. K.	B. coli	15	Recovery
Mrs. F. W. T.	B. coli	20	Recovery

These cases were treated medically without improvement, but improved with vaccine treatment and recovered with the disappearance of pus and bacteria from the urine.

The number of doses given each patient was always more than needed to clear up the infection, the idea being to make sure that a sufficiently high immunity be produced to protect the patient from subsequent infection with the same organism.

Of these 100 cases 87 per cent. recovered completely, 13 per cent. did not. The most satisfactory results were obtained in infections of the skin and subcutaneous tissues. The results in respiratory conditions were not encouraging. This has also been my experience in other cases.

All of the ear cases recovered except one, and this case was subsequently found by roentgen ray to have a very extensive involvement of the mastoid region.

The improvement in many cases was very slow and the treatment was persisted in for many months.

One hundred cases are not many, but, perhaps, when added to other hundreds they may help us to learn whether vaccine therapy is of value or not.

DISCUSSION

Dr. Walter D. Blankenship, Lancaster: I am sure Dr. Womer is to be congratulated on his large number of complete recoveries in this series of cases, as I consider 87 per cent. a remarkable number of cures and far beyond the percentage of cures I have heard of in any similar series. Since Wright wrote his article in 1902, very much has been said and written regarding autogenous vaccines, and any practical reports are of value in eliciting their true status. One observer, Davis, feels that there is a possible danger of serious accidents in the use of vaccines by inexperienced men, and another observer, Coates, states that little harm will or can result from their use, even by the novice. I merely state these views in order to show the disparity of opinion among the profession today.

There is no doubt that vaccines play an important rôle in the treatment of certain infectious conditions, and I agree with Schorer that "in all cases it seems best to make an autogenous vaccine because the various strains have special and specific action and, therefore, cannot be used indiscriminately." The study of the opsonic index, before and after each injection, has given way to clinical improvement as the criterion and I see no reason why autogenous vaccines should not be used by the intelligent general practitioner in conjunction with trained bacteriologist.

I want to emphasize the point that autogenous vaccines are not a panacea, but that in certain, definite cases their use is indicated and demanded. Dr. Womer's cases have been selected from a large practice as ideal ones for this type of treatment, and this, no doubt, has some bearing on his excellent results. When vaccines are the therapeutic agents selected, other lines of treatment should not be neglected. If surgical treatment is indicated, it should, by all means, be used in conjunction with the vaccines. It is folly to blindly pin our faith in vaccines to the exclusion of old known principles and practice. Use them in conjunction to get best results.

Dr. Womer has had excellent results in his treatment of chronic polyarthritis in which the tonsils were the portals of infection. In taking a culture from the tonsils it is wise to swab the tonsils with 95 per cent. alcohol and then take the culture from the tonsil crypts, otherwise you might get a pathogenic organism from the mucous membrane of the throat that was not the offender. With Billings I would caution that "we must not forget the principles of medical practice of our fathers." There are certain agencies, as old age, poor nutrition, faulty personal hygiene, that must be taken into consideration whatever our method of treatment, and stimulating baths to the affected joints, passive and active exercise, correction of dietary errors, cleanliness, and mental and physical rest must be observed if we would get results. Billings reports that in a series of 500 arthritic cases, some with and some without the use of autogenous vaccines, but all of them on the same hygienic treatment, the result was quite satisfactory without as with the vaccine. That fact illustrates that local and constitutional treatment should not be neglected when employing vaccines.

In the treatment of skin conditions, as acne, furunculosis, abscesses and carbuncles, Dr. Womer has been most successful. I would emphasize the importance of locating the etiologic factor before instituting treatment, as it would be absurd to treat carbuncles or boils due to diabetes, albuminuria or intestinal disorders, by vaccines, without treating the cause. When, however, the cause is located and you have decided to use vaccines, the surgical treatment is not to be neglected throughout the course of treatment. Many observers, as Wright, Gilchrist and others, have observed excellent results with antogenous vaccine in these conditions.

In cases of endocarditis in which a focus of infection can be localized, as the tonsils or alveolar abscess, I agree with Dr. Womer that vaccines are capable of great value, and King of New York reports a case in which he makes the statement that vaccines saved a man's life when other methods of treatment had failed.

Dr. Womer's cases of purulent otorrhea were decidedly interesting as to the percentage of recoveries, and it would be interesting to know over how long a period the ears had remained dry. If we have in autogenous vaccines a cure for this condition, we will be able to save many and many a patient from the radical operation.

THE REQUISITE ATTRIBUTES OF PROPERLY FITTED SPECTACLES AND EYE-GLASSES[*]

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When glasses are prescribed, the oculist's duty to a patient does not end with the writing of the prescription, and not until he sees that the lenses are properly ground, axes correct and that the supporting frames or mountings hold them securely and permanently in the correct position before the eyes, that the material used is good and that the lenses are set so that they will not easily or soon loosen.

The cooperation of the optician is indispensable, but the burden rests with the oculist. The latter should be a master of the principles and familiar with the materials used in the construction of spectacles and eye-glasses and should be able to visualize the finished product when he writes the prescription.

It is a service, particularly to a patient wearing a cylindrical correction, to impress on him the necessity of securing well made and skilfully adjusted glasses, so that he himself will be satisfied to employ only such opticians as are accustomed to a high standard of manufacture.

It has long been the custom of careful oculists to recommend to their astigmatic patients, spectacles in preference to eye-glasses. They have learned by experience that spectacles provide a much more stable and correct lens position. Young people and many others who would preserve their youthful appearance refuse, however, such recommendations even when eye-glasses are manifestly unsuitable. This difficulty is partly overcome by suggesting the use of spectacles during home, office or working hours, reserving the use of eye-glasses for those occasions when personal appearance is considered of prime importance. In my opinion, well-fitting spectacles are far more becoming than ill-fitting eye-glasses, and there are many noses, indeed, that provide but a perilous support for the latter

Zylonite and shell spectacles or the shell-rimmed, metal bridge spectacles, alleged to impart a youthful and attractive appearance to the wearer, have been accepted in countless number of cases in which spectacles would otherwise have been refused. Considering their advantages over eye-glasses, the lessened breakage during the present lens shortage, and the desire of the government to conserve the gold supply, the popularity of this type of spectacle frame is opportunely fortunate.

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[*] Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

The all-zylonite or shell spectacles are made in a number of sized round eyes and numerous shapes and sizes of bridges which will set the lenses either in toward the eyes or out, either high or low.

Patients may insist on enormous lenses, but if the maximum therapeutic effect is desired, correct optical principles must not be violated, and I tell all of my patients why the lenses can not be any larger than their interpupillary distance will warrant and instruct the optician when shell glasses are ordered: to use as small an eye as necessary in the case.

Each lens, unless both are spherical, should be dotted by visible diamond dots on its posterior surface, one near each end of the 180° meridian. These four points must always fall on one line and when the glasses are on the patient's face, this line must coincide with or be exactly parallel to a line extending from external canthus to external canthus.

The lenses in the all-zylonite or all-shell frames are sprung in after warming the rims. Very frequently, particularly in warm weather, the rims expand, the lenses loosen and may rotate to an altogether wrong axis. Hence, the four diamond dots must be pointed out to the patient and the necessity explained of keeping these dots always on one line. One must also insist on tightly fitted lenses.

With the aid of a hot water bath or an electric oven, the temples are to be moulded to fit the sides of the face and can be slanted downward so as to give the lenses the proper tilt. The hook temples are to be shaped to fit the back of the ears. Shell temples which are attached to the shell fronts by a strong metal hinge are the best.

The "Shelltex" spectacles, which are a combination of zylonite rims with metal bridge and end pieces, permit of very good adjustment. The lenses, usually round, are sprung in. The so-called "Windsor" spectacle, which looks very much like the Shelltex, is a light weight, gold-filled spectacle frame, to the eye wire of which, pieces of zylonite are ingeniously attached. The lenses used in this frame can be ground to fit tighter than in the Shelltex frame, because the end pieces open to receive the lens. Rotation of the lenses in the Windsor frame is, therefore, much less likely to occur. Both of these types are supplied almost exclusively in gold-filled, which is in itself a disadvantage, being easily bent. More perfect centering can be obtained and larger lenses are possible with these than with the all-shell spectacle. The lenses should be tight, the horizontal meridians visibly dotted and in perfect alignment. The zylonite covered temples can be accurately fitted to the back of the ears.

The lenses in the new heavy white all-metal and heavy gold-filled frame spectacles with round eyes, now popularly known as military frames for adults and school spectacles for children, should also be dotted at each end of the 180° meridians.

For adults, no other form as yet devised can supersede in comfort, practicability and inconspicuousness, a well-made pair of solid gold, heavy-weight frameless spectacles. When properly constructed and adjusted, the cylindrical lenses are held by them, rigidly and permanently in the correct position.

If supplied in light-weight gold or in gold-filled material, the advantages offered by this type of glasses are almost completely lost through lack of permanence of the adjustment.

The four screws and screw holes of these spectacles mark four points on the 180° meridian, which points must always fall on one line. When the glasses are on the patient's face, this line must coincide with or be parallel to the line extending from external canthus to external canthus.

If the glasses show a tendency to slip down to a certain place on the nose, depend on it no amount of tightening or shortening of the temples will suffice to make them rest higher. The bridge must be so constructed that it can rest on the natural first little bend of the nose, even if this is low. The shanks of the bridge should carry the lenses thence, upward to the proper level.

The temples must extend backward in a perfectly straight line to the tops of the ears. Here there should be a rather sharp turn and the heavy wire or shell should be adjusted to fit the elevations and depressions of the back of the ear. The temples must be long enough to reach behind the ear lobes. The ability to make this particular adjustment well is the mark of a good fitter.

Given a nose which offers fair support, the familiar form of frameless eye-glasses can be fitted so that each lens center will be directly in front of each pupillary center. The posts of the studs are supplied in various lengths. Short enough lenses and short posts must be used where the interpupillary distance is narrow. Advantage must be taken of the various types of inset and outset posts. The most comfortable guard must be selected, preferably a rigid one and one which gives the proper tilt to the lenses. Short armed guards are used to set the lenses near, long armed guards to set the lenses farther off from the eyes.

As a general rule I prefer that eye-glass lenses be drilled in center and that if a drop be necessary that same be obtained by the selection of guards which set the lenses low. My main reason for this is that readjustments are, under these circumstances, apt to be made with a greater degree of accuracy. The lenses of frameless eye-glasses must be dotted on the 180° meridian. If drilled above center, both ends must be dotted. The lenses of shell-framed eye-glasses, which are now supplied so that no screws pass through the glass, must be dotted at both ends of each lens. When the glasses are on the patient's face the alignment must withstand the same rigid test as spectacles.

The Varsity type of folding eye-glasses are manifestly unsuitable for cylindric lenses. Their lenses should be dotted, however, and the four geometrical points must fall as nearly as possible on the horizontal line when the glasses are worn.

A white pencil line drawn vertically through the geometrical center of each lens of either spectacles or eye-glasses must, unless there be a manifest squint, exactly intersect each pupil, when the eyes are directed straight ahead, if the glasses are for constant use, or when the eyes are fixed on a point at reading distance, if they are for near work.

Because of the demand for large lenses, the common tendency of opticians just now is to have the distance between the centers of the glasses exceed the interpupillary distance. This must be carefully guarded against, for convex lenses thus placed act as prisms, base out, which are particularly adverse for all near work and make necessary a converging effort even in distant gazing.

The left eye is usually nearer the nose than the right. I have noticed the opposite often to obtain in left-handed people. The shank of the saddle bridge used on spectacles can, when necessary, be rolled in, more on one side than on the other. On eye-glasses, one can use a shorter post on one side.

Patients have come to me looking through the upper right temporal quadrant of one lens and the lower nasal quadrant of the other and wondering why the glasses prescribed, presumably by good oculists, do not give perfect comfort. None of the long train of evils following in the wake of refractive errors can be said to have been efficiently treated unless the ideals of spectacle and eye-glass fitting, as here set forth, are reached.

In considering the fit of spectacles and eye-glasses the following questions inevitably arise:

Is the interpupillary distance correct? Has allowance been made for one eye being nearer the nose than the other?

Are the horizontal meridians of both lenses on a perfectly straight line and level when on the patient's face?

Are the lenses as near to the eyes as they possibly can be without being brushed by the lashes?

If flat lenses have been used would toric lenses have been appreciably better and allowed a closer approximation or a more advantageous position? Toric lenses should not be adjusted so as to flange outward as if the visual lines diverged. The usual lines converge to the point under observation.

Do the lenses set at the proper height and are they tilted at the right angle? View the wearer's profile and determine whether the position of the lenses as to their height and tilt, is the best possible. Nature has indicated the exact tilt for lenses that are to be worn constantly. They should be parallel to a line extending from the center of the upper, sharp, thin, bony rim of the orbit to a corresponding point on the lower, sharp, thin, bony rim. This is the natural bony orbital aperture. The lens centers should be but slightly lower than the center of the bony orbital aperture. When glasses are for near work only, or are bifocals, it is permissible, but not always necessary, to tilt them forward the least bit more.

The upper edge of the reading portion of a bifocal should come just to the level of the lower lid border. Each reading portion should be centered for each eye, when the eyes are in the reading position.

Are the lenses of the right size and shape for the case in hand? Are they held rigidly and permanently in position?

Examining the finished product, the oculist should ask himself this question: If the unmounted lenses were held free in my hands could I hold them before the patient's eyes in a better position than that which they now occupy? If the answer be "yes," the frames or mountings do not fit. Be prepared to say what is the matter.

Examine the lenses for irregularities on the surfaces, such as waviness, flat areas, fine or coarse scratches, unpolished areas, smudges, etc., all causes for rejection or correction.

Examine the lens edges as to their smoothness, freedom from chips, continuity of the circumferential curve, general shapeliness.

Lenses should be well matched as to thickness and weight, otherwise there will be a constant drag-down on one side. With lenses both approximately the same focus, the match as to thickness and weight can be very exact. E. G. R + 2 = + 1 cyl. ax. 90; L + 1.50 = + 1.50 cyl. ax. 90.

When the two lenses of a pair are of widely differing focus, the thicker lens should be ground thin and the lens ordinarily much the thinner can, by special surfacing from a thick block, be made extra thick. In the majority of cases the perfect balance depends solely on attention being given to this important detail. R — 0.50 sph. ⊂ — 0.50 cyl. ax. 180; L — 7.50 sph. ⊂ — 1.00 cyl. ax. 180. The patient is entitled to this special attention.

Frameless spectacles and eye-glasses, to mount which, holes must be drilled in the lenses, are still in very general use. Setting the lenses snugly in the straps so that there is no free space between the surfaces of the strap arms and the lens edge is very important. The hole must have been drilled at just the right distance inward from the lens edge. But when mounted, there is supposed not to be any tension on the glass, which would mean early breakage. The straps of frameless mountings are made in a number of gauges, to fit various thicknesses of lenses. Our object is to secure a perfect approximation of the metal to all the parts of the lens with which it comes in contact. Failure to secure snug fitting means early loosening of the screw and shakiness of the glass with loss of exact alignment.

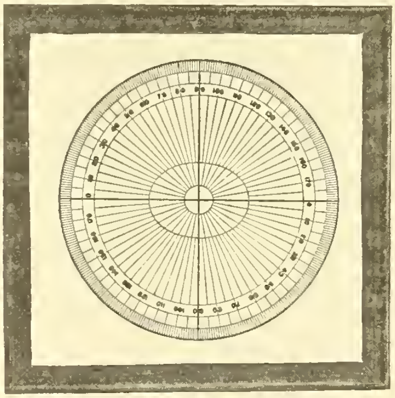
Toric and deep meniscus lenses are harder to fit snugly into their mountings. Good workmen are able to do it, and quality of workmanship will rise to an exacting demand. Hold the glasses up to the light. None should shine through where free spaces should not exist.

It is the duty of the oculist to neutralize very carefully the lenses which are to be worn by his patient.

To supply lenses of the wrong focus is almost unpardonable and this error is fortunately infrequent among good opticians. The lens errors oftener made are subtle, elusive and equally harmful. They require care and experience to detect and concern principally the surfacing, uncalled for decentering and inaccuracy of the cylinder axis. Lenses may neutralize, but they must neutralize exactly at the axis prescribed.

The oculist should have a protractor card like the one in the illustration and a well sharpened white china marking pencil (Blaisdell No. 164).

Place one lens on the protractor card, accurately in the center of the figure, using, as an aid in so doing, the central oval line on the card and such marks on the lenses as the centrally drilled screw holes or the permanent diamond dots recommended to be placed at both extremities of the 180° meridian of all undrilled frame lenses or the dots on the 180° meridian of all lenses, the screw holes of which are drilled above the center. Assume that the axis is correct and the lens not decentered. Guided by the markings on the protractor card, place a small white pencil dot at each end of the line which passes through the supposed axis. Also dot the lens at the two extremities of the line at right angles to the supposed axis. The idea is to mark the lens with dots where the axis should be and then examine the lens to see if the axis is really there. The other two corresponding dots at right angles to the first help one to determine whether the optical and geometrical centers coincide and to test the centering of the spherical portion of a spherocylindrical lens.



Not only must neutralization with trial lenses be perfect, but when a straight black line is viewed through the lens, at a distance of several inches, this black line must appear continuous behind, above and below the lens, when it is opposite either pair of the marked white points. If this be not the case, the lens is "off axis" or has been either purposely or more often inadvertently decentered. Lenses which are 5° off axis at either pole should be rejected.

When neutralizing, the cylindrical test lens must be held just parallel to the white dots which we have marked on the lens to be tested.

Some ingenuity must be exercised when neutralizing with lenses from one's test case and particularly when examining toric lenses. The spherical and cylindrical test lenses must always be held in as close contact as possible with the lens to be tested. Sometimes with flat lenses the cylindrical test lens can be placed on one side of the lens to be tested and the spherical test lens held on the other side. With a toric, or deep meniscus lens, try to get a good accurate contact on the convex surface. As you move the lenses to and fro and view through them some distant object and try to detect some apparent motion, restrict your observation to that area of the lens which has good contact with the test lenses. Maneuver the test lenses so as to successively secure good contact in various parts of the lens. Preserve at all times the parallel of the cylindric test lens to the marked axis of the lens under test. If a slight movement of an "off focus" is detected, move the lenses farther from your eyes and the apparent movement will be exaggerated. Wavy lenses will not neutralize throughout and sometimes will not neutralize in any area.

Reliance must not be placed on an automatic lens measure to determine exact lens axes.

A device called the Lloyd axometer is said to determine axis and focus of any lens, mounted or unmounted. This instrument, however, is costly and is not found in every consultation room. The protractor card and the white marking pencil afford a cheap, practical and accurate means of examining cylindric lenses and should be present in every one.

235 South Fifteenth Street.

DISCUSSION

Dr. Adolph Krebs, Pittsburgh: The essayist has covered the subject so thoroughly that very little is to be added. He has called attention very properly to the great importance of spectacles being so made that the lenses sit in the position the oculist intended they should. The optical centers of the lenses must of course correspond to the interpupillary distance. I do not quite agree as to the disadvantage of decentering lenses. If a patient whose pupillary distance is too narrow insists on having the large lenses, now so generally used, any competent optician can do the decentering. In obtaining the exact interpupillary distance a very excellent subjective method is to use two pinhole disks; when the two pinholes become one, the patient gazing into the distance, the interpupillary distance corresponds to the distance between the pinholes. As Dr. Olsho has said, the lenses in the round zylonite and even in the metal frames do not remain always tight, and even though you dot your lenses and show them to the patient, the patient may later return complaining of headaches and the lenses are found to be off axis. It is my custom to very carefully test all axes with an axis-finding instrument and to dot the lenses at their outer edges only. In heavy shell frames, I sometimes find it necessary to remove the lenses from the frame and then determine the exact axis, marking it by a fine scratch or dot. Dr. Olsho has complained of the great expense of one of these axis finders, but to my mind it is one of the most valuable instruments in the oculist's office. I think we can well afford to spend fifty or sixty dollars for an axis finder, because we can then determine the exact axis of our lenses so quickly and so accurately that when the finished glasses have passed inspection we may be sure that the lenses will be worn as we fitted them and with the assurance that our work has been performed to the best of our ability. As to the turning the lenses in the frame, Dr. Wells has recently suggested a method of fastening the lenses in the shell library frames. He removes the temple, drills the shell and inserts a screw which fits into a notch in the lens. In cases where the lens can be removed a small drop of solder placed inside the metal rim prevents it from turning. There are other shell frames made which have open joints. In these, I have had a very thin piece of metal inserted in the end piece which engaged in a notch in the lens, preventing the lens from turning.

A very important point not mentioned by Dr. Olsho is that the glasses should be lined up before the lenses are measured. For example, we frequently find the spectacle not perfectly on line with the nose piece, one eye is down and the other up, or both lenses are raised or both droop, the latter especially in eye glasses. When the lenses have been ground several degrees off axis, the optician sometimes attempts to have the axis right before the eye by bending the frame crooked; this should not be permitted, because, should the frames be properly readjusted by another optician the glasses would be off axis. I always advise my patients to show the copy of their prescription when having glasses straightened or repaired, and I always request them to let me neutralize any lens that has been replaced because of breakage, etc. While this is no doubt quite troublesome at times, I find it pays to extend this extra supervision to our patients, for while, as a rule, the optician's work is very carefully and skilfully done, the number of errors found in the grinding and adjustment of glasses is entirely too great for us to neglect these examinations.

Dr. J. F. Klinedinst, York: In regard to the interpupillary distance, usually that is 60 mm. There are certain individuals whose interpupillary distance measures 60 mm. when the vision is straight ahead, and yet if you measure each eye separately one eye is more than 30 mm. from the center of bridge of nose. In that case, direction should be given to spread that portion of the bridge so that the center of one lens should be more than 30 mm. from the center of the bridge. That is very important, especially to one wearing a bifocal lens, or who has a muscle imbalance.

Dr. Krebs called attention to the fact that the lenses may not be lined up properly. It is important to have them lined up properly so that the bridge in resting on the nose brings them in a perfectly horizontal axis. Certain individuals have one ear higher than the other. In that case you must bend the wires to correspond to this elevation. Again in regard to the use of bifocal lenses, there is an advantage in having the bifocal portion ground in one or two mm. toward the bridge.

Dr. Lewis H. Taylor, Wilkes-Barre: Just one point I think is sometimes overlooked; a great many times we find that one eye is higher than the other, and we cannot have the lenses absolutely horizontal. There must be a slight tilt in order that these bifocal glasses may be properly adjusted before the eyes. Patients do not like to be told they have one eye higher than the other and yet if the doctor himself happens to have one eye higher than the other, as I, myself, have, you can call attention to that, and they do not object to it. I think it is very important that the oculist himself should always test the glasses and he should say to the patient, "If anything happens to your glasses come back and let me test them." "If you have a new lens let me see you again." It happens so frequently that children in using their glasses get them out of shape one way or another, or that the lenses get turned around in the frame so that a lens with an axis, say, of 75 gets turned upside down and it becomes axis 105. You then find that the frames had been broken, the lens taken out in order to repair the frame, and it was perhaps put in upside down.

Dr. John Welsh Croskey, Philadelphia: In the adjustment of glasses I believe that the interpupillary distance is a very important matter. The great majority of opticians measure from the inner side of one pupil to the outer side of the other pupil, making no allowance for any asymmetry of the face. Taking the center of the nose as the median line I think that it is safe to say that in 80 per cent. of cases there is a variation in the distance from this line to the right or left pupil.

My prescription blank has a stub, which is returned to me by the patient, the optician marking on this stub the pupillary distance of each eye and the sum total. This gives an opportunity to examine the glasses and the adjustment. Recently I purchased a test case and trial frame made by Bausch and Lomb. The trial frame allows for all adjustments either horizontally or vertically and it can be adjusted if one eye is higher than its fellow; in fact, the frame can be adjusted so that the patient will use the optical center of each lens.

Dr. G. Edgar Dean, Scranton: The subject is of greater importance from the fact that so large a percentage of the work of the average ophthalmologist is refraction and necessarily so. Now I am very glad Dr. Taylor mentioned the matter of having the patient come with the glasses to the oculist. Therein our honor as well as our reputation is involved. We do not want our patients to be wearing something that is improper, and they will be in a great many cases if we trust somebody else. Only a little while ago I was to send a pair of glasses for a patient in New York. These glasses had a prism with the base up. When they came to me for inspection I found the prism with the base down.

In regard to these new frames that have come so much in vogue, they have come from the use of automobiles and automobile goggles; but we need not go the full length of putting goggle frames on our patients. This is a monstrosity when it comes to prescribing it for ordinary distance wear of the patient. It also has a very positive disadvantage in that the temples are made a certain distance from the hook to the end of the glasses; that is very liable not to conform to the ear, and we can adjust it only by putting it into hot water, and then into cold water which is an awkward process; then as the patient uses them they stretch out, so I do not prescribe that monstrosity unless the patient insists on it. As to the hook temple, the Windsor frame in my practice has proved the most satisfactory—selecting the light or "crystal" Windsor for blonds and the dark-rimmed ones for brunettes. It will sometimes occur that there will be too much space in spite of our selection of the size of the lens; that is, too little interpupillary space for that frame, and therefore we may need to have the optician decenter the lens inward. Dr. Klinedinst brought out the subject of one ear being higher than the other; but he did not tell us how frequently. It is a very frequent occurrence and it is very easily overcome by making one temple higher than the other.

Dr. Olsho closed the discussion with illustrations on the blackboard and with the use of charts and samples of various nose pieces and spectacle frames.

REPORT OF A BACTERIOLOGICAL STUDY

OF THE DEPOSITION AND DISTRIBUTION, IN A COMMUNITY, OF A FORM OF MICRO-ORGANISM PREVIOUSLY FOREIGN TO THE COMMUNITY *

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This unusual title has been chosen because it is desired to bring out, mainly, facts of a practical nature, arising out of an investigation of an extraordinary and rare disease.

In March, 1917, at Wilkes-Barre, an epidemic of disease among a group of traveling parrots was followed by an epidemic of human disease. Psittacosis is the name given to such a disease, epidemic among human beings and transmitted from sick parrots.

It is proposed to show that the micro-organismal factor in the Wilkes-Barre epidemic was generalized in character, an example of fundamental living matter. It assumed the forms and functions of bacteria, but none of the characters underlying these appeared fixed at the time of the epidemic. The mechanism of its deposition will be outlined.

Such a form of life was also found to constitute the intestinal saprophytic florae of those healthy parrots which were examined.

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* Prepared for the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

Furthermore, evidence will be presented that more or less temporary fixation in one or more characters, of this generalized bacterial protoplasm, may take place.

During the following winter, in the regular routine of practice, cases of human disease, pneumonia, angina, enteritis, meningitis, etc., of unusual character, were observed, in which it will be shown, that this generalized protoplasm was employed as the bacterial factor. At this time moderate character fixation was frequently exhibited.

The more academic considerations of psittacosis will be presented in a complete report.

EPIDEMIC STUDIES—INTRODUCTION

On March 2, 1917, during an intense cold spell, a large number of parrots arrived at Wilkes-Barre. They were on a circuit, and they had been long en route from the previous stopping place. They were exhibited for sale, grouped together in the open, in the basement of a large department store. Many of these parrots were ill when they arrived, appearing to be "frozen," according to the store employees. They drooped, their wings were ruffled, mucus ran from their noses, and many had diarrhea. A large number soon died. Great crowds came to see the parrots, forty-eight were sold and taken to homes, a number died, some recovered, some never appeared ill. The parrots were in the store forty-eight hours, and were then sent on. They showed signs of illness in the town where they were exhibited previous to their arrival here. After leaving this city there were few further evidences of the epidemic. The acme must have occurred en route, and in the store.

In about ten days, the sick list of the store employees began to grow. At about the same time, many peculiar cases of illness appeared in the practices of physicians in Wilkes-Barre and the surrounding towns, and these appeared, most usually, in those with a clear history of contact with the sick parrots, either at the store or at home.

These cases were variously diagnosed as influenza, pneumonia, and very often typhoid fever; but in all, an element of uncertainty was strong. Many of the symptoms of one or all of these diseases were present, but the grouping and degree of intensity of the different symptoms differed from those of any disease so far observed in this community. In a very little while, the diagnosis of psittacosis was suggested by a clinician. Although certain cases fitted exactly the accepted symptom grouping of this disease, as a whole, the clinical pictures in this epidemic varied more than in those epidemics previously described, and the mortality was distinctly lower, not above 5 per cent.

In this epidemic the incubation period appeared to be about ten days. The duration of the disease varied from one to four weeks. Three groups of cases may be easily differentiated. In all three a terrific headache was a common symptom; this was associated with a most profound prostration. The pulse rate was not often above 100. The temperature curves were often irregular; most frequently they simulated those of typhoid fever. The leukocytes, when counted, were nearly normal in number, and the Widals taken were negative. The majority of cases resembled either influenza, with rhinitis, conjunctivitis and cough; pneumonia, with a sustained fever, but a nearly normal pulse rate; or typhoid fever, both with and without a splenic tumor, and without rose spots. Some showed a combination of well-marked symptoms, involving the entire respiratory and gastro-intestinal tracts. In all the cases there appeared to be some involvement, however slight, of the upper respiratory tract, the lungs, the gastro-intestinal tract. A peculiar odor, somewhat resembling that observed in cases of typhoid fever, pervaded the surroundings of these ill human beings. The lung signs were very baffling, exhibiting scattered areas of dullness, often wandering, with moist râles, and frequently without any abnormality in the breath sounds. The lung signs rarely balanced one another, rarely were typically pneumonic.

Through the courtesy of the manager of the store, a brief survey was made of the building. The parrots had been located in two places, a show window, and in the basement, in the center of a large area. A careful analysis was made of the clerks located near the parrots, including one who had charge of those birds which were ill. These individuals were compared in groups, for the incidence of disease, with those at various distances, on the same floor, and those on different floors. Like the public, practically all the clerks made a point of seeing the parrots. There must have existed, in that basement, a zone of virus-loaded air about the group of parrots. Some people touched the parrots, but in the vast majority of instances, the inspiration of the air of this zone was the common factor. As ever, under such circumstances, there must also have been a personal factor. The young woman caring for the sick parrots did not become ill.

There were a number of human cases, in which the disease, in its epidemic form, must have been contracted from sick parrots, after the birds had been taken to the homes. As far as could be determined, the disease was not, in its epidemic form, transmissible from human being to human being. This also was true in previous epidemics.

Unquestionably, many individuals received directly the activated bacterial protoplasm distributed by the parrots during the epidemic, but reacted to only a slight degree. They suffered from headaches, slight colds, etc. The real limits to the clinical picture of such a disease are, perhaps, just this side of the infinite.

History of Similar Epidemics.[1]—McFarland, in the eighth edition, 1916, "Pathogenic Bacteria and Protozoa," mentions psittacosis as "an epidemic, infectious disease with pneumonic symptoms and a high mortality." He states that "its origin has been traced to diseased parrots, and from them, Nocard isolated *Bacillus psittacosis,* supposed to be the cause of the disease in man." This was substantiated by Gilbert and Fournier. The same author, in grouping bacilli of the typhoid-colon type, places *Bacillus psittacosis* between the meat poisoning and the typhoidal groups, under the designation of the pneumonic, or psittacosis group.

Nocard's Bacillus.—According to Nocard's work, the organism is a short, stout, motile, flagellated rod, rounded at the ends. It forms no spores. It is aerobic, optionally anaerobic, nonchromogenic, aerogenic, pathogenic. It is not stained by Gram's method. It ferments dextrose, not lactose; milk is not coagulated, nor is gelatin liquefied. The colonies, on agar-agar, resemble those of *Bacillus typhosus.* Bouillon becomes clouded. With regard to its pathogenesis, it is stated as peculiar. It is extremely virulent for parrots, for white and gray mice, and pigeons. Ten drops of bouillon culture injected intravenously kills a rabbit in from twelve to eighteen hours. It has been found in the blood of human patients, ill with a peculiar pneumonia. It is only slightly agglutinable with antityphoid serum.

Methods.—The description of the methods employed will be found in a complete, detailed report. Suffice it to say here, that ordinary nutrient, neutral beef broth, and 2 per cent. glucose broth were the simple liquid media employed, and agar and blood-agar were used as the solids. Mice were inoculated by way of the peritoneum, with .5 c.c. to 1 c.c., rabbits, by way of the ear vein, with 2 c.c. of bouillon cultures.

Sources of Material for Study.—For the direct investigation of the epidemic above, there were provided three parrots, one from the store, two from the houses to which they had been taken. Eleven human patients were observed. These all had a history of contact, at least through the air. Specimens of blood of each were studied, the feces of nine, the sputa of three, and in some cases, two or more specimens. There were representive cases of the types described; pneumonic, influenzal, typhoidal, together with both more general ones, and those borderline in character. An appendix; a sputum, and blood in a case of pneumonia, and in one, typhoidal in character, were also studied. No history of contact with the parrots was obtained for the individuals providing these materials. A miner, complaining only of a headache, died at his work. The necropsy revealed general hemorrhages and hemorrhagic meningitis. It was later discovered that the sister of this man had been ill during the epidemic.

PRELIMINARY STEPS

1. Sputum from a case of supposed pneumonia was analyzed for the type of pneumococci. Oval cocci were present. One c.c. of an emulsion caused pneumonia in a mouse, and death in thirty-six hours. Smears showed great numbers of gram-negative rods. The cocci were not agglutinated by Cole's sera I and II.

2. Blood cultures from human epidemic patients showed at first very fine, gram-positive rod forms, peculiar in curves, nodes, and bunchings, shapes such as may at times be assumed by variable streptococci. Repeated smears demonstrated a variation in the picture. Irregular coccal forms were also seen, and smears where forms were mixed. But the primary forms (primary rods) were seen to fade. Cocci became more prominent. Cocci fused, apparently elongated, to coarse gram-positive rods. Indeed, whole colonies of cocci were observed in a state of change, fusing and elongating, with the formation of both gram-negative and gram-positive rods.

3. A parrot, indirectly from the store, showed disease of the lungs and the gastro-intestinal system, but none under the wings. Smears from various areas (nose, peritoneum, lumen of intestine) showed forms corresponding to stages of the metamorphosis described as taking place in human blood. A culture of the parrot's blood, injected in 1 c.c. amounts into the peritoneal cavity of two mice, caused death with consolidation of the lungs. Smears and cultures showed in one, fine, gram-negative rods,

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[1] For a good clinical description, see Dieulafoy's Text Book of Medicine, pp. 1853-1856.

in the other, a coarse bacillus, in appearance a saprophytic but apparently pathogenic.

4. Another parrot provided, in smears, mixed bacterial forms, from the marrow, respiratory tract, and gastro-intestinal tract. But in cultures, there developed a bacillus coli-like rod, which in some cases imparted a green color to the media.

5. At exactly the same time, the cultures from the mouse, first mentioned, injected with Dr. W.'s sputum, exhibited a green chromogenic rod, resembling that from the parrot's cultures.

Thus, by injecting a human pneumonic sputum containing cocci into a mouse, we got rod forms, evidence of pathogenesis, no pneumococci, no pronounced peritonitis. The apparent jump from cocci to rods was a change paralleled in human blood cultures. A parrot blood culture produced similar necropsy pictures in two mice, with contradictory smears and cultures. Then, cultures from another parrot, and those from the first mouse (first step) showed an exactly similar bacillus. The development of this small gram-negative rod in cultures from the parrots was so rapid that for a long time it was considered as existing in such a form as an etiologic entity, *i. e.*, a definite organism. The metamorphosis was at first considered peculiar to the relationship of the bacillus to the human organism.

6. Cultures from various sources, from sick parrots and human patients, in .5 c.c. and 1 c.c. amounts, caused death in mice. The time required varied. The necropsies exhibited: (*a*) Pale organs with dilated viscera, parenchymatous degeneration, and serous exudates, or very rapid and profound putrefaction; (*b*) hemorrhagic spots on the lungs were frequently, but not always present, whatever else existed.

The bacterial forms as injected into animals represented the various stages, regular and transitional, already indicated (primary rods, cocci, rods). The bacterial forms regained sometimes showed no change; again, a new form would be assumed. Changes tended towards the assumption of gram-negative rod forms, but often they showed temporary reversions and retardations, which made the drawing of conclusions very difficult.

7. Three rabbits were injected with cultures of: (*a*) A fine gram-negative, rod-shaped organism from a parrot, such as has been described; (*b*) a coccus from human blood; (*c*) mixed rods from a specimen of human feces. They all died within eighteen hours. Their necropsies showed huge hemorrhages of the lungs, small ones of the gastro-intestinal tract, and death was followed by different degrees of putrefactive intensity. From the hemorrhagic areas gram-negative, motile, slim, needle-like rods were obtained in the bouillon cultures which smelled foully.

BACTERIAL FINDINGS

I. *In General for All Sources, Forms and Changes.*—It was found that in the materials, when first obtained, either a single bacterial form was found or many forms. Whether first was obtained what was termed a primary rod (a fine, irregular, gram-positive form, assumable by streptococci), or a coccus, or transition forms, or a coarse rod, large or small, gram-positive or gram-negative, changes occurred. If mixed forms were seen changes occurred. But if fine, regular, gram-negative rods of the typhoid-colon type were found in cultures, the changes did not occur. The changes were observed: (*a*) In original specimens; (*b*) in original cultures; (*c*) by sub-culture in artificial media; (*d*) in animals.

They varied in suddenness, preciseness, intensity and rapidity. They took place towards a common goal, and in the end, to a more or less exact degree, the forms and bouillon cultures were all comparable, and revealed a fine, gram-negative rod. It was a delicate, slim, needle-like gram-negative, typhoid-colon type of rod, of extraordinary motility. In plain bouillon it caused intense clouding, more or less of a delicate pellicle, and a most disgusting odor. It grew on all media. In carbohydrate broth it produced acidity. It digested milk and gelatin. It split glucose, lactose, saccharose. Usually it formed a green pigment, if the tubes were not tightly corked. It has proved very tenacious of life, being viable after a year's inactivity. It resisted drying. On Russell's double sugar medium, when not green and decolorizing, it might grow like the typhoid bacillus. There were forms which grew like the paratyphoid group and the *Bacillus coli,* but the colonies were different, being thick and dull white in color.

After careful comparison it was found to be agglutinable equally well by the sera of normal, ill, and convalescent human individuals, in dilutions of strength varying between 1-10 and 1-70. It was only agglutinable by very concentrated antityphosus or paratyphosus sera. It was very destructive to animals; 0.01 c.c. of a plain bouillon culture killed mice in from twelve to twenty-four hours. This bacillus, even had it proved stable, had not the characters of Nocard's bacillus, although of the same, or typhoid-colon type. It will be designated as the typical rod or bacillus.

This metamorphosis was paralleled by a change in function, but there was no binding relationship between form and function.

Changes in Function: (a) Evidenced by necropsies on inoculated mice.—In mice, death in from eight hours to one week, practically always followed their inoculation. The necropsies varied, roughly paralleling the bacterial form changes. The simplest, mildest disease picture, associated with cocci, showed pale organs, acute peritonitis, often pleuritis, with much fluid. Necropsies, representing the next step, revealed, associated with the above picture, large lung hemorrhages. The smaller, final rod forms, and especially the typical bacillus, added to either of the above pictures, speed of onset, and the more intense and often horrible putrefactive changes. (*b*) *Evidenced by necropsies on inoculated rabbits:* The primary rods, especially the cocci, but indeed, any form, in the standard 2 c.c. amounts of bouillon culture, when injected into the ear vein of a rabbit, frequently caused a mild and chronic disease. This was a gastro-intestinal catarrh, with some local points of mild inflammation, or even pus (cholecystitis).

A more intense reaction from cocci, as well as from the different rods, including the typical rod forms, resulted in several cases in pneumonic consolidation. Fibrin was found in and on the lungs, the gross lesions were built on a basis of large, irregular areas of hemorrhage, not fitted to the lung or lobe boundaries. Suppurative conjunctivitis and rhinitis, trachitis and bronchitis frequently accompanied the pneumonia. Instead of pneumonia, in some instances, there was observed an acute reaction in the stomach and intestines, with hemorrhagic inflammation, death occurring in two to four days.

The more rod-like forms were, in general, associated with the more intense disease reactions. The typical gram-negative rods induced quick death, hemorrhages anywhere, and putrefaction, often abnormal.

End Result of Change.—The fine, gram-negative rod of the typhoid-colon type, to be know in the future as the typical rod, described as the end result of metamorphosis, and its culture as the typical culture, caused death in eight to eighteen hours, with hemorrhages. These hemorrhages might be located in the lungs, gastro-intestinal tract, heart and kidneys, or generally, even throughout the skeletal muscles. This was the final stage in functional changes, and the animal reaction will be known as the typical reaction. The courses of change in form and function might be immediately completed in the first injection-reaction, or take place only after many animal transfers. Frequently they took place in a test tube.

II. *In Particular, Comparing the Sources.*—The sources of material were the following: (1) Parrot tissues in general; (2) human blood; (3) human feces; (4) human sputa; (5) human tissues.

Parrot sources provided various bacterial forms which, very rapidly, assumed the terminal state of change.

Human blood cultures were all positive, showing usually, a fairly precise metamorphosis from primary rods or cocci, to gram-negative rods, with especially slow functional changes. Rarely, rods were found at the first examination.

Human feces and sputa showed mixed forms. Usually, in the case of the fecal specimens, the very first fresh cultures induced the typical hemorrhagic reactions in animals. The cultures from the sputa induced a great variety of animal reactions. In the end, subcultures induced the typical reaction.

Human tissues, the organs from the single human necropsy, all provided cultures of gram-negative rods in the first instance. (This was not a typical case.)

The End Result of Changes, the Common Goal.—The typical culture in plain bouillon: The attention naturally centers on the end result of all these changes, the cultures of the gram-negative, typhoid-colon type of rod, so extraordinarily omnivorous and commonplace in its diet. This remained relatively stable and fixed, while under the influence of plain bouillon, and if used in large enough doses in rabbits. (That is, in 2 c.c. amounts.) Any changes in environment changed the form and function, thus it was necessary to designate it merely as living material, generalized bacterial protoplasm.

It was intensively studied in plain bouillon. Although most of the units were fine and gram-negative, variants were always observed, cocci, larger units, and gram-positive rods. By simply subdividing the culture and inoculating animals with different amounts, the various courses of changing bacterial form and function observed in the epidemic studies, were found to be repeatable. Every particle of the culture transmitted the same type of generalized, flexible, supremely adjustable, living material.

By centrifuging such a culture, clearing the supernatant fluid to the eye, there were observed under the microscope, suspended in this fluid, rather plump, single, gram-positive rods. Inoculated into animals, 2 c.c. of such a fluid, containing such a trifle of material represented in these special units, caused death as rapidly as 1 c.c. of the whole culture. And not infrequently, the animal necropsies revealed a beautiful pneumonia. It should be noted that these special, disease-producing bacterial units, not thrown down by the centrifuge, were, of course, the lighest units in the culture.

It must be evident that the typical culture resulted from the persistent influences of the common environment provided by plain bouillon. It represented merely a "state," in which the bacterial protoplasm exhibited a division of labor among the units, the great mass of them, and especially those gram-negative, taking up the more vegetative, saprophytic work of living in the artificially prepared material, while single and alone, hung suspended those rarer units, bearing within themselves the special power capable of producing disease in animal tissues.

SUMMARY—STUDIES ON EPIDEMIC MATERIAL

1. Parrots and men, in contact, in most cases by means of the air alone, were ill of a general bacterial disease, characterized by poorly defined syndromes. In different individuals the pictures varied in the local manifestations. The gastro-intestinal and respiratory systems were principally involved. The bloody, or hemoglobin-tinged sputa; the prevalence of pure, hemorrhagic lesions, or inflammation on hemorrhagic bases, in inoculated animals; the hemorrhages characterizing the single human necropsy; all indicated the prevailing type of macroscopic lesion. Microscopically, there was observed in the inoculated animals and the human organs a strong tendency to cytolysis in the parenchymatous tissues, usually without nuclear destruction.

2. The parrots were ill first.

3. Bacterial protoplasm was present in large amounts in all the areas studied, in both parrots and men.

4. In both form and function, and in their relationships, this bacterial protoplasm showed complete variability.

5. The function of specimens, as directly or freshly obtained, in their reactions in animals, bore no necessary relationship to the reaction, or disease picture, present in the host from which it had originated, *i. e.*, the parrot or human being.

6. Practically all bacterial protoplasm studied did react to some degree in animal tissues.

7. In the course of change involved there were stages, either in the beginning or en route, in which the function of the bacterial protoplasm was such that, following its injection into animals, reactions resulted in disease pictures, which imitated those observed in human cases, in both the generalization and the points of local emphasis.

8. Either with extraordinary rapidity, or more slowly, bacterial protoplasm from all sources, exhibited changes in form and functions, all tending in the same direction, with the final assumption of a common state in plain bouillon called the typical culture.

9. The typical culture contained as units very fine, slim, often needle-like, short, gram-negative bacilli of the typhoid-colon type, together with variants.

10. The typical culture in 2 c.c. amounts, when inoculated into a rabbit, induced the typical reaction; death in from eight to twenty-four hours, with hemorrhages indiscriminately located, and putrefactive changes more or less abnormally rapid.

11. The typical culture contained latent the capacity for a reversibility in the courses of change in form and function leading to its assumption. More than this, there was found to be present latent, disease-producing powers resembling those which must have been associated with the protoplasm at the moment of the epidemic.

12. This common "state" should be considered as a whole. The protoplasm must be viewed abstractly, its one claim to an exhibition of hereditary power resting on its capacity to reproduce life of a similar abstractness.

STUDY OF THE BACTERIAL FLORA OF HEALTHY PARROT FECES

In order to substantiate the foregoing findings, and to understand the mechanism of the epidemic, the source of such generalized bacterial protoplasm was sought.

Naturally first the contents of the intestinal tracts of healthy parrots was investigated.

Dieulafoy mentions the fact that Gilbert and Fournier reported the finding of a bacillus in the feces of normal paroquets, similar to, but not identical with, that described by Nocard, as the cause of psittacosis in France.

Several parrots were procured, and the droppings studied; following is a brief summary of the results of the investigation.

SUMMARY OF EXPERIMENTAL WORK

The bacterial protoplasm found in the intestines of healthy parrots proved to be a living material which assumed all manner of shapes, supremely flexible and adjustable, although, occasionally in its study there were observed slight tendencies to persistency in form and function, even in the face of a changed environment. Plain bouillon tended to develop a gram-negative rod form. The digestive capacities in artificial media indicated as omnivorous an appetite as that of the typical culture obtained from epidemic material. Growth in plain bouillon for twenty-four hours provided a culture which in 2 c.c. amounts was capable of killing young rats of considerable size, in from one to two days.

EXPERIMENTAL INDUCTION OF; THE CAPACITY FOR GROWTH IN ANIMAL TISSUES; THE POWER OF PRODUCING DISEASE IN ANIMALS; AN AFFINITY FOR ANIMAL TISSUES

The bacterial protoplasm was developed in both plain bouillon, and ox bile and glucose bouillon, and used in initial amounts of from 2 c.c. to 14 c.c., in mice and rabbits.

Following are the facts arising out of this experimental investigation:

1. Profoundly adaptable, such bacterial protoplasm has inherent the capacity for growth in animal tissues.

2. This capacity, practically in its inception a power of disease production, is aroused and demonstrable in considerable degree, by contact alone, with ordinary, plain bouillon. Bacterial protoplasm if obtained from a culture of ox bile and glucose bouillon, in the greatest amounts employed, 14 c.c., induced the death of a rabbit only after months of time. The same amount obtained from plain bouillon, induced death within twenty-four hours. Plain bouillon evidently, activated certain, living, chemical processes.

3. By manipulating these two artificial media, so different in their influences, long series of animals were studied, so that various stages were observed in the intensification of disease producing power of the bacterial protoplasm.

4. Metamorphosis and functional changes in the cultures supplied by the animals were observed, the courses of change involving both the series as a whole, and individually, from different animals in the series. These changes were the same as those observed in the epidemic material.

5. The intensification in the power of disease production, permitted the units of bacterial protoplasm to set up more and more intense disease reactions, further and further removed from the near neighborhood of the intestine tube. The series included cases of chronic gastro-intestinal catarrh, acute gastro-enteritis, pneumonic consolidation, hemorrhages scattered anywhere or everywhere in the body. Thus, there were observed the same entities as those exhibited, naturally, in the epidemic cases, and induced experimentally with the epidemic material.

6. A high degree of disease producing power could be induced in bacterial protoplasm by a twenty-four hour initial contact with plain bouillon, followed by a short sojourn in the tissues of a single animal.

7. The end results of all these efforts toward experimental disease production were the experimentally induced typical cultures, resembling exactly those obtained during the studies on the epidemic materials. In these freshly developed preparations, prime interest centers about the supernatant fluid-borne units, already referred to.

8. The supernatant fluids of these cultures induced beautiful, clean cut pictures of pneumonia.

9. After five hours centrifugation, a fluid was shaken with kaolin, and perfectly cleared, yet a fibrinous pneumonia followed the inoculation of 2 c.c. into a rabbit. An unkaolinized control also induced pneumonia, of course killing the animal more rapidly.

10. Viable protoplasm frequently passed the pores of American-made porcelain filters, and developed, on incubation, perfectly typical cultures, even in the bouillon of the filtrates which had already developed one culture. But the inoculation of rabbits with the unincubated filtrates never induced acute disease. The supernatant units in which the disease producing power was mainly segregated, did not, therefore, pass through the pores of the filter, and it was thus definitely shown where such power lay in a culture. The temporary and loose adjustments on which such an edifice as the typical culture is built were demonstrated.

11. Again, as in typical cultures from epidemic material, in a plain bouillon culture the power of the production of disease in animals, including an affinity for their tissues, was discovered to be tethered to the lightest of the bacterial unit bodies.

THE MECHANISM OF DISEASE PRODUCTION IN AN ANIMAL FOLLOWING ITS INOCULATION WITH TYPICAL CULTURES OF GENERALIZED BACTERIAL PROTOPLASM

Following their injection into an animal, the great majority of the bacterial units lost their outlines within an hour. If the animal was then killed, in the tissues dying or dead, after incubation of the organs, bacterial matter became formed but the shapes assumed, varied greatly. The units of highest disease-producing power appeared to retain their form from the beginning, just as the fixed types of well-known bacteria are observed to do.

A simple hypothesis was developed to explain the phenomena following experimental animal inoculation:

1. The largest part of the bacterial protoplasm of a typical culture diffuses throughout the animal body and makes contact with the living tissues, not as formed bacteria, but in ultramicroscopic, amorphous, chemical units.

2. These units, for the sake of argument, may be conceived of as representing the living chemical mechanism whereby life in animal tissues is effected, and according to the intensity of such chemical reactions in the bacterial protoplasm, destruction, digestion, and replacement by bacterial matter, overtakes the living tissues with which contact is effected.

3. Such a chemical reaction may be activated by various organized substances in the rôle of catalysts, such as plain bouillon, tissue extracts, both living and dead tissues, etc.

4. Such bacterial matter, formed or unformed, also acts as a catalyst to arouse and sustain the various well-known processes and reactions of the animal tissues and organism, by which the invaders are resisted, and the disease pictures produced.

5. It may be imagined that the intensity of reaction, in the bacterial protoplasm required to live in a given tissue, would be less, the greater the amount of circulating, dead food material in that tissue. That is, the gastro-intestinal tissues approach saprophytic conditions more closely than would essential tissue cells unconnected with digestion. The latter would require a more truly parasitic character on the part of the bacterial protoplasm to destroy them.

Actually, it was repeatedly found that old strains of cultures, diminishing in the intensity of their chemical processes, were restricted, in the lesions producible by them, to the regions of the gastro-intestinal tract. Cultures originally inducing fine pictures of disease in the first rabbit met with, general hemorrhages and quick death in the second, frequently induced as quick a death in the third, but hemorrhages only of the gastro-intestinal tract.

Death was observed to occur in eighteen hours without any hemorrhages. Such acute death must then be due to the total mass reaction, while at no point is the reaction sufficiently intense to produce an individual halo of destruction large enough to be seen. A bacterial unit of given power is relatively strongest near the intestinal tube. Yet the power may be only strong enough to sustain the bacterial life, but not to produce a lesion. Great intensity of reaction will then be demonstrated only after the death of the animal organism, by the ensuing putrefactive changes. In dead or dying tissues the power of the bacterial unit is relatively, of course, stronger than it would be even close to the lumen of the intestine in the living.

Rosenow has demonstrated examples of a relationship between virulence and elective selectivity of far greater delicacy, on the part of streptococci.[2]

6. The interaction of the two active, living materials, bacterial protoplasm and animal tissues, undoubtedly provides in discarded substance, molecules of the protein poison discovered by Victor Vaughan, proved to be contained in all protein, and to be liberated by the action of both the specific and nonspecific ferments provided in the animal body. As indicated in the study of the agglutinability of the gram-negative bacilli by the sera of healthy, psittacotic, and convalescent human beings, as well as in the numerous proofs of the general lack of character fixation, it is questionable if specific ferments are developable by the animal body against such bacterial matter. Actually, in order, according to the reaction intensity, and the time allowed for their development, there were observed for any given area in the animal body the processes known as cloudy swelling, cytolysis, nuclearlysis, hemorrhage, deposits of serum, fibrin, red blood cells, white corpuscles, pus, round cell deposits, fibrosis, etc.

Disease pictures were observed involving practically all the body regions, singly, and in various combinations, acutely and chronically.

EPIDEMIC STUDIES: CONCLUSIONS

In the presence of cold, the chilling of the parrots resulted, most likely, in an intestinal disturbance with irritation, as evidenced by a diarrhea. From the walls of the intestinal tube, exuded the altered secretions containing inflammatory elements. These constituted extracts of living tissues. The stimulating effect of plain, meat-substance bouillon on generalized bacterial protoplasm, has been experimentally demonstrated many times in the preceding pages. The effects of genuine, fresh tissue-extracts must be more brilliant. The rapid change from the saprophytic to a distinctly parasitic state, under the influence of meat substance bouillon, plus that provided by an extremely short sojourn in animal tissues, has also been demonstrated.

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[2] "Elective Localization of Streptococci," by E. C. Rosenow; published in Jour. A. M. A., LXV, 1915, p. 1687.

The whole group of parrots, on the train en route from the point where they were first chilled, and in the store, were one great culture. In the intestines of many birds, the bacterial protoplasm received the stimulus provided by an excess of exudates from the intestinal walls, practically tissues in solution, natural preparations, imitated by artificially prepared, plain bouillon. The "culture" comprised by the group of parrots was then inoculated by this bacterial protoplasm, aroused in the intestinal tube to a state of activity already providing a capacity for growth in animal tissues, indeed, considerable disease production. Acceleration of this activity of the bacterial protoplasm occurred in the tissues of the parrots, which formed, naturally, the principal component of the culture, and an intense affinity for bird or animal tissues was induced. This attack was made easy by the undermining of the bird's resistance, due to the chilling of their bodies. All about the parrots, dead organic material was deposited. Thus, there existed a state of affairs to which that entity known as "the typical culture of generalized bacterial protoplasm in plain bouillon" may roughly be compared.

The parallel between the two becomes more evident, if one considers that the factor provided by the bird bodies in the parrot group culture, is represented in the typical culture by the bodies of the rabbits through which the bacterial protoplasm was passed, previous to the development of the typical culture. In the latter, it has been shown that the power of the bacterial protoplasm, providing the affinity for animal tissues, was segregated in the "bodies" of certain units, proved to be the lightest of all the units in the culture by the fact that they remained in the supernatant fluid after the culture was centrifuged.

In the culture, composed of the group of parrots, the action of the centrifuge was represented by the force of gravity. The more saprophytic portions of the protoplasm, clumped together and, therefore, being heavy, remained on the ground, while the units of disease-producing power, floated above and about the parrots in the air, represented by the supernatant fluid of the typical culture.

Such material was diffused in the zone about the parrots and alighted on human tissues. Whatever the process of incubation, the disease in human beings was general, with special exaggerations of signs and symptoms referable to the respiratory or gastro-intestinal tracts, but variation in the clinical pictures was the rule.

A natural conclusion would be that the general lack of fixation in any one so-called character of the protoplasm, so frequently observed, must hold true, also, for the relationship between the protoplasm and this character underlying the affinity for animal tissues. And, indeed, there has been found experimentally, in the studies on the supernatant fluids of typical cultures that, on inducing disease, a dissolution takes place in the relationship between the bacterial protoplasm and the affinity it may exhibit for a rabbit's tissues. At least the supernatant fluid of a subculture from a rabbit, killed by a supernatant fluid, was at first innocuous, although later the culture became entirely typical. At any rate, in the first line of human bodies, as clinically reported, the epidemic faded, and great masses of bacterial protoplasm of a generalized character then lay about the human community, much of it with hardly more than saprophytic power. The epidemic was over.

It was this protoplasm that the author first procured; protoplasm capable of various degrees of activity in and affinity for animal tissues; and which, of course, being generalized, under the influences of a common environment, underwent metamorphosis and adjustment of function, until a common ground was reached, the typical culture which, developing in plain bouillon, provided such far-reaching results.

GENERALIZED BACTERIAL PROTOPLASM FIXATION OF CHARACTER

Thus far there has been described the source and character of the bacterial protoplasm, and how it was deposited from the intestinal tracts of parrots, upon a community.

The next step is that concerned with the fixation of characters by the bacterial protoplasm, by which the epidemic are linked to the post-epidemic findings.

Irrespective of human contact: (1) Frequent, transient demonstrations of the persistent assumption of a given form were observed, especially in the study of the bacterial protoplasm from healthy parrots. (2) Experimentally, by the repeated employment of supernatant units for bouillon reinoculation, a strain was obtained in which there was shown at least a temporary fixation of the character underlying disease production in animal tissues. (3) One of the laboratory parrots, from the moment he was acquired for study, became ill with enteritis. His intestinal flora was studied, periodically, until he died three months later. Fixation in the character underlying the function of disease production in animals was actually observed to slowly take place. Other characters were variable, only gelatin was not liquefied by the bacterial protoplasm obtained from the diseased tissues of the bird after death.

POSTEPIDEMIC STUDIES: INTRODUCTION

At this point two important questions might be asked: (1) What became of the bacterial protoplasm involved in the epidemic? (2) What relation may this bear to the protoplasm previously existing in the community?

The first division of this report covers the study of occurrences arising naturally, during a period of not over eight weeks of time (March and April). In May, June and July nothing of interest was registered, and there was no definite intention at that time of the further investigation of related, spontaneous disease.

During the summer a number of cases of disease associated with chronic foci, and one case of acute enteritis, provided fecal specimens, bouillon cultures from which resembled perfectly the typical cultures supplied from epidemic material. In one of the cases a blood culture exhibited a metamorphosis just as described in the epidemic studies.

In the fall, in the routine of a rather specialized office practice, the examination of various chronic foci, especially in the nose, ears, etc., also urines and bloods, demonstrated a bacterial flora which was peculiar for: (1) Excessive numbers of bacterial units; (2) predominance of all manner of rod forms; (3) pleomorphism; (4) an occasional bacterial specimen perfectly generalized in character; (5) at times green cultures. Associated with these findings, blood cultures from ambulant patients were rarely sterile, and frequently demonstrated growths in every tube, pleomorphism was indicated by different bacterial forms in each tube, which by irregular metamorphosis often showed their relationships. Plain bouillon did not activate such specimens to cause more than a mild enteritis in animals.

It may be recalled that the criteria of recognition, worked out for the bacterial protoplasm during the epidemic, were: (1) Metamorphosis toward a stage of a motile, slim, gram-negative bacillus, or the persistence of this stage while in plain bouillon, with its associated foulness, greenness, and general digestive powers. (2) Functional changes, more or less parallel. The stages, roughly, of functional change were in their order as seen in animal reactions: (*a*) Mild, chronic, gastro-intestinal disease; (*b*) acute gastro-intestinal disease; (*c*) acute pneumonia; (*d*) twelve-hour to twenty-four-hour courses, with more or less general hemorrhages.

Thus, during the epidemic, the bacterial protoplasm was generalized, variable, flexible, and easily reactivated by growth in plain bouillon, so that immediately, or in a short time, a certain form appeared, and marked disease-producing power would be demonstrated by the plain bouillon culture. Such propensities, especially if associated with the development of a green color, provided, of course, easy marks of distinction.

In the postepidemic period, bacterial matter, on first acquaintance, did not appear to be undergoing definite metamorphosis. Typical gram-negative rods did not necessarily cause a typical reaction, even after a considerable time interval.

During the period, October to December, there were observed several peculiar cases and facts; viz.: (1) Typhoid-like cases with negative Widals, and bacterial forms in the blood showing a metamorphosis from coccal to rod forms; (2) a necropsy in which the death was evidently due to an irregular enteritis with diffused hemorrhagic lesions, caused by typical gram-negative rods; (3) mucus, blown from the nose of an individual with catarrh, had a canary yellow color (like epidemic sputum).

These different facts suggested the possibility that common colds and other similar cold weather diseases might utilize as their bacterial basis, the remnants of the epidemic-strewn bacterial protoplasm. If this should be so it was thought that some light might be thrown on many mooted questions of etiology.

Two cases then occurred which were rather terrifying:

Case 1.—A young man, previously well, died in twelve hours, with a horrible headache, which began in the mines. The autopsy revealed the most remarkable picture, of huge clots of blood in all the cavities and spaces of the brain, with very slight signs of inflammation. These showed, in smear, rather large, gram-negative bacilli. There was also a mild enteritis, and an intense splenic tumor, one out of all proportion to the duration of illness.

Case 2.—Another healthy man was found unconscious, and died within forty-eight hours, showing signs of pneumonia. This autopsy revealed a most intense, pneumonic process, one without leukocytes or fibrin, but distinguished for the amount of fluid and blood present. There was a general bacteremia. Everywhere were typical rods.

Calm contemplation of such cases was difficult, it is so easy at least to think the word "fire." But it was only necessary to further develop the idea, already partially evolved, and stated above. The epidemic bacterial matter was believed not only to occupy diseased areas and old foci, but to be widely saprophytic, so that generally diseases might be expected to arise on it as their menstruum. This conception, if true, would place even the above terrific cases on individual bases, both built up from generalized bacterial protoplasm, supplied from sources within the bodies of each. They would constitute disease entities, no more transmissible to human associates than was the epidemic disease.

Accordingly the hypothesis was adopted, that everywhere diseases were redeveloping on the bacterial protoplasm distributed by the epidemic; that metamorphoses were taking place, but very slowly; that all manner of functional adjustments could be expected, from that obtained with purely saprophytic material from parrot droppings, up to a typical reaction.

Then in mid-winter arrived an "epidemic," involving the gastro-intestinal tract of human beings. In the coldest spell of weather great numbers of people, more or less simultaneously, suffered from an illness of short duration. They had nausea, vomiting, and diarrhea. (This general phenomenon occurred several times during the winter.)

A considerable number of stools were studied, controlled by specimens from healthy individuals. Cultures of gram-negative rods were checked for form, motility, colony production, chromogenesis, indol production, action in litmus milk, gelatin, and on Russell's double sugar agar, and titrated, macroscopically, against an anti-*Bacillus coli* serum (titer 1:1,000) in dilution 1:200 and 1:20. Following were the results: (1) One specimen was green and exactly like typical cultures, already mentioned and compared. On the other hand, one or two were agglutinated by the anti-*Bacillus coli* serum (1:20). (2) In general, varying in form, whether motile or not, the colonies were usually coarse and greenish, indol was formed. Most specimens either coagulated or digested milk, many liquefied gelatin. Every conceivable picture was painted in Russell's medium. Most of them were not agglutinated by the anti-*Bacillus coli* serum. Indeed, throughout the winter, human feces, in general, contained similar bacterial life, and the finding of cultures of the *Bacillus coli* as controls was given up in despair. The inoculation of animals with some of these cultures resulted in a similar diversity of results. Reactions included both those typical during the epidemic; twelve-hour courses, with hemorrhages, and chronic gastro-intestinal catarrh, or "carrier" disease, a mild, chronic, local enteritis. This type bore no relationship to the state of health, or the type of disease of the host.

We have thus evidence of an unusual saprophytic flora in the intestines of the community.

NECROPSIES LINKING THE BACTERIOLOGIC FINDINGS AND HYPOTHESIS WITH CLINICAL FINDINGS

The author was privileged, during the winter, to perform a number of necropsies on the bodies of human beings who died from various causes. In a great many, a most important finding appeared to be the short loops of the small intestines, twisted so as to form sacs, distended with mucus and brown fluid, *i. e.*, subacute or chronic enteritis. Such enteritis was also observed in rabbits inoculated during these investigations. It was discovered in two ways; both in those dying from cold, and presenting secondary, acute disease; and in those previously inoculated and etherized while, apparently, unaffected and healthy.

A. Secondary disease arose to our observation in these typical examples:

J. W. T., middle-aged, was killed by a weak electric current. On a basis of chronic degenerative changes, there was found a subacute enteritis, and intense hemorrhagic bronchitis of the adherent right lung. Hemorrhages through the pancreas. Parenchymatous degeneration. Bacteria: typical gram-negative rods. Although the meninges were negative, typical cultures were obtained from the spinal fluid.

J. C., young, was a sufferer from chronic, gonorrheal, prostatic enlargement. Following a course of catheterizations, suddenly a most intense form of septicemia resulted. Autopsy revealed hemorrhagic cystitis, perirectal hemorrhages, general profound degeneration. Putrefaction clouded the picture. Spleen negative. Bacteria: everywhere, typical bacilli.

Mrs. S., young, had cesarean section performed. The uterus, allowed to remain in place, had been previously infected by a midwife. Postoperative death in thirty-six hours. Clinically: suppurative metritis, peritonitis. Intestines negative. Edema of brain, tiny hemorrhages, no real meningitis. Fatty degeneration, liver and kidneys. Spleen negative. Chained cocci everywhere from uterus to brain, which metamorphosed to rods.

H. M., 23 years old, a sufferer from chronic nephritis, received a blow over the precordium. Hemorrhagic pericarditis developed. There followed pleuritis and pneumonitis. There was an intense enteritis, but a rather acute one. Bacteria: typical gram-negative rods.

B. Spontaneous in their origin were the diseases involved in the three necropsies reported in the introduction, also the following:

Mr. V. D., of middle age, was found dead. The autopsy revealed a hemorrhagic gastro-enteritis, without involvement of "Peyer's patches." Massive hemorrhages were present about the pancreas, kidneys, etc. There were evidences of an intense bacteremia. From all the diseased areas typical cultures were obtained.

Mr. J. W., of advanced middle age, was brought in by the police, suffering with severe dyspnea. Autopsy exhibited chronic, degenerative changes of the vital organs. There was a very low grade of enteritis, and acute, hemorrhagic gastritis, a most intense bronchitis, a splenic tumor. Typical cultures were obtained from the bronchial secretions.

Mrs. M. T., middle-aged woman. Putrefaction was rapid. The body revealed a hemosuppurative meningitis, principally of the ventricles, base, and cord. The intestines showed scattered areas of low grade inflammation. Profound degeneration of the parenchymatous organs, with an acute splenic tumor. Cultures: typical gram-negative rods.

H. H., 8 years old (embalmed). Patient suffered from meningitis for about three weeks, following slight ear trouble. Autopsy showed suppurative mastoiditis and cerebrospinal meningitis. Low grade enteritis. Parenchymatous degeneration, and splenic tumor. Bacteria: during life, irregular cocci in spinal fluid, which metamorphosed to rods. At death, rods and cocci in mastoid cells.

W. P., aged about 6 years, had mild acute meningitis, followed by chronic meningitis and hydrocephalus, died in two and one-half months. Brain showed hydrocephalus, with cloudy fluid. Acute pneumonia. Mild duodenitis. Parenchymatous degeneration. Splenic tumor. While alive, a number of specimens of spinal fluid showed irregular, Gram-positive cocci which metamorphosed, developing typical green cultures. After death, the spinal fluid and various diseased areas provided immediately gram-negative rods and typical green cultures.

Miss H., aged 16 years. Reported always healthy by family physician. Died rather suddenly with nephritis and pneumonia. Autopsy revealed a large chronic abscess of the left tonsil. Acute lobular pneumonia. Acute hemorrhagic enteritis. Left kidney entirely atrophied. Right tremendously contracted, with fair regenerative changes, plus an acute nephritis. Cultures from various diseased areas were green, and provided, immediately, typical gram-negative rods, differing only in the animal tissue affinity displayed.

SUMMARY OF NECROPSY STUDIES

These cases exhibited in common: (1) A peculiar, often mild, chronic enteritis, with fine hemorrhages, in a few cases other foci. (2) General tendency to hemorrhagic lesions. Tendency to coarse degenerative changes, especially cytolysis, as observed in animals inoculated with the typical cultures. (3) A generalized form of bacterial protoplasm, commonly typical rods in plain bouillon. Rare evidences of character fixation. (4) Evidences of autoinfection, or metastases, under various exciting causes of disease. (5) General dissemination of bacterial protoplasm, irrespective of visible, local manifestations of disease.

The last necropsy (Miss H.) was one of a number very intensively studied, in which the supernatant fluid and different amounts of the whole cultures, from various diseased areas, were inoculated into rabbits. In this case, the most valuable of all, from an old tonsillar abscess, bacterial protoplasm had evidently passed, inducing acute pneumonia, and acute nephritis either in an old contracted kidney, or had caused the contraction. Bacteria from all sources provided typical, green cultures, such as were seen during the epidemic; yet, by comparing the supernatant-borne units, those in the tonsil cultures exhibited an intense affinity for animal tissues; while those from the lung cultures had no power whatever.

To prove this further, it was frequently observed that, from the most acutely diseased areas in a body, 2 c.c. of a whole culture of gram-negative rods would destroy a rabbit in one to two hours, while 1 c.c. was without any effect, a common result of the employment of generalized protoplasm in the saprophytic state. Such was not the result of the employment of the cultures from the foci of these bodies, which were typical.

This loss of energy by the special disease-producing units in cultures from acutely diseased areas has been considered under the epidemic studies; it was also induced experimentally. It explains the delimitation in the spread of the epidemic, by the first row of human bodies attacked.

The cultures from the foci in each individual. capable of being activated by plain bouillon and containing disease-producing, supernatant fluid-borne units, indicate a flora at the foci, representing the material liberated from the parrot intestines during the epidemic. Such activated protoplasm from foci, passed through the blood to the organs of the individual, just as material passed through the air to individuals themselves, at the time of the epidemic. And just as at that time, being generalized and unfixed, frequently bacterial protoplasm was obtained which lacked affinity for, even the power of disease production in, animal tissues.

6. Cultures from points of local manifestations of disease (not foci) usually lacked animal tissue affinity.

CLINICAL ENTITIES

Now what of the clinical entities? The description of the diffusion of generalized bacterial protoplasm as chemical units, throughout all the tissues of an animal may be recalled. A bacteremia was unquestionably the rule.

Local exaggerations of disease processes provided various types.

The periods of onset were frequently ridiculously slow. A peculiar, moist, white, coat on the tongue was common. Frequently there was a disagreeable odor somewhat resembling that observed in typhoid fever. The pulse was usually infrequent in rate, the temperature curves were irregular. The leukocyte counts were as a rule higher than normal, and frequently preposterously high compared to the mildness of the case. Urinary analysis usually revealed small amounts of albumin, leukocytes, and red blood cells. It should be mentioned that these findings were not uncommon in general routine analyses, and apparently of slight import. Blood cultures were quite commonly positive. The blood was subdivided, as a rule, between four bouillon tubes, two or three and often four showed units, in the beginning (twenty-four hours) rarely having the same form for each tube. At times a complete metamorphosis was observed. Again a coarse rod form would persist, or a coccus go long unchanged.

PNEUMONIAS

In the cases, where the lungs were especially involved, the cough, in its slightness, frequently failed to agree with the dulness, or the dulness with the number of râles. The presence of the latter was the more common sign, and they were moist. Bronchial and bronchovesicular breathing were often absent. The sputa were, in some cases, bright red, but blood corpuscles were not usually present. At least in some degree, canary yellow coloration existed.

One case of pneumonia showed in the sputum from the very first a typical gram-negative rod, producing a green color in bouillon, 2 c.c. of which destroyed a rabbit in four hours. Other cases showed mixed forms, with much evidence of transition, and in streaks on blood-agar, so-called germination points, composed of poorly outlined, round, or long, pale units. Later, gram-negative rods were evolved. Still others showed pleomorphic, or regular cocci, which were quite persistent.

Emulsions of the sputa caused death in mice, but pneumococci were not recovered.

TYPHOID AND GRIP

Many patients were merely ill without well localized signs, but both intestinal and respiratory involvement, variations in the intensity, and especially in the duration, at times produced cases resembling mild grip, again typhoid fever.

MENINGITIS

The "epidemic" of this disease was the most fascinating of all the studies. The cases were so insidious, neck rigidity was so often a late sign. The disease, as a rule, was mild. Cases did not occur in more than one member of a family, and were scattered far and wide.

The spinal fluids are worth careful attention. They varied supremely, as did everything else. Aside from the bacterial content, the following characters may be grouped. They showed: (1) A tendency to contain blood, either a few corpuscles, or many, or free hemoglobin; in one case this yellow-brown color increased slowly, as proved by comparing the dozen fluids withdrawn. (2) A solid content, often astonishing, when viewed in the light of the mild course of the case. This seemed quickly to agglutinate and form a thick mucoid mass. (3) The pressures were very high. (4) When fairly clear, very often bacteria were found in a fluid responding but weakly to Noguchi's globulin test; evidence of a low grade of chemotaxis.

The bacterial investigation of some twenty cases, and many more specimens, did not reveal meningococci in direct smear, after stimulation with glucose, nor in cultures on human blood agar. The majority showed irregular, gram-positive forms, usually rounded, and some rod shaped. Occasionally there were chained cocci. Rarely there were coarse rods, with unstained spaces. Some showed small, gram-negative, typhoid-colon like rods. Metamorphosis was quite often observed, carried out till gram-negative rod cultures were evolved.

One case studied clinically, and then at necropsy, while patient was alive, provided specimens containing coccal forms which metamorphosed to rods, which caused green cultures. After death the ventricular fluids in the brain provided typical, fine, gram-negative rods, alone here, as well as throughout the body.

In animals the few cultures injected caused only mild septicemia, or merely induced a "carrier" disease.

ANGINAS

The anginas seemed less peculiar clinically than the other cases. The infections indicated associated general involvement. The throat deposits were in the form of either a fairly tenacious membrane, or of slime, often pale greenish in color. This was rarely limited to the tonsils. Discrete, follicular tonsillitis was not observed by the author.

Bacteriologically, in the first place, a few units resembling *Bacillus diphtheriae* would be found. These only once were increased by cultivation. By the Neisser stain frequently the granules appeared lying free, with large gram-negative bacilli. Pleomorphism was intense, either of cocci alone, or cocci and rods. Metamorphosis took place at varying speeds. In the case of one rod, not diphtheroidal, cultures were caused to grow as diphtheroids, by continuous adjustment to blood serum. In one case moderately benefited by antitoxin, the Loeffler slants were emulsified, and equal amounts were sprayed into one rabbit's throat, and injected into the ear veins of two others. One of the latter was allowed to live, the remaining two were etherized in twenty-four hours. In both there was a mild enteritis, and a very acute splenic tumor. The organisms found were rods, largely gram-negative.

RESULTS OF THERAPY IN GENERAL

Fortunately Mulford's polyvalent, antimeningitis serum was of value even in severe cases, and even late in the courses.

One case of pneumonia treated with antipneumococcus serum, prepared by the same firm, responded beautifully.

Several typhoidal cases were unquestionably cured by the intravenous injection of 200 million dead colon bacilli.

Diphtheria antitoxin was frequently used in the anginas. Its administration at times marked the beginning of a lysis, but one which was rather slow and not a typical result.

SUMMARY OF CLINICAL STUDIES

On what basis can these clinical entities be grouped?

1. They were peculiar, variable, irregular, and as such, the different cases of the same disease bore to one another striking resemblances.

2. The pneumococcus, the *Bacillus typhosus,* the *Bacillus diphtheriae,* the *Micrococcus intracellularis,* were all absent.

3. (*a*) The blood cultures were usually positive, and bacteria, in general, exhibited metamorphosis, but this was often irregular, and very slow. (*b*) Most of the pneumonias and the meningitis cases exhibited, primarily, either large coccal, or irregular gram-positive forms; the anginal cases, although also exhibiting some diphtheroids, presented excessively pleomorphic protoplasm. (*c*) The cultures from all metamorphosed either very slowly, or with dispatch. The protoplasm assumed gram-negative, rod forms, but frequently, not very typical ones, and in animals, such cultures often induced merely chronic enteritis. (*d*) One or more cases of every single one of these different forms of disease provided, immediately and directly, perfectly typical cultures which developed a green color, and induced typical animal reactions, thus supplying the link required for correlation.

How can we explain the development of such disease entities? There has already been described, as a common, postepidemic factor, the presence of completely generalized bacterial protoplasm, or protoplasm exhibiting slight degrees of fixation of characters, at three points, (1) preepidemic, chronically diseased foci; (2) subacute, postepidemic, intestinal foci; (3) the colon, where it comprised a large part of the saprophytic flora; bacterial protoplasm was in waiting, stored, and perfect building material for such disease entities as were clinically observed.

Bacterial protoplasm, liberated from such springs of disease, would be capable of causing disease on the basis of the two following possibilities: (1) Activation of purely saprophytic material in the colon, just as it occurred in the intestines of the epidemic parrots; (2) bacterial protoplasm permanently aroused to a state capable of causing disease, *i. e.,* natural typical cultures existed, because of activation in already diseased foci.

The necropsy series demonstrated the individual foci, the general distribution of bacterial protoplasm, and the prominent disease pictures at several different points in the body.

The typical cultures demonstrated the variations in disease-producing power possible between different portions of a given mass of generalized bacterial protoplasm. The relationship between the degree of such power, on the part of the activated bacterial protoplasm, and its ability to live best near or far from the intestinal tube, has already been discussed in relation to localization. With the needle as the individual focus, in innumerable rabbits, the distribution was general, disease processes most generally involved the gastro-intestinal, and respiratory systems, more rarely, fine examples of meningitis were induced.

The local points of disease in the clinical series embraced the gastro-intestinal, respiratory, and cerebrospinal systems.

The children suffered from the general disease, but it was clinically localized in the specialized cerebrospinal tissues. This may well depend merely on relatively insufficiently developed general powers of resistance. In adults, meningitis was associated with only the most intense, generalized disease. Thus the common upper limit of animal tissue affinity on the part of the bacterial protoplasm, in adults insufficient to induce meningitis, attacked the meninges of the children with ease.

How can the bacterial findings be correlated?

In general, in the acute cases of disease of a given type, bacterial units differing in form, were proved to be related by definite metamorphoses, just as was the case with the epidemic material, although, in some cases, transition occurred only after months of time. Especial tendencies toward persistency of the coccal stages were observed, and, of course, large, gram-positive rods, which were sour in bouillon. In the end gram-negative rods appeared, but in some cases, a terminal stage was observed which exhibited variations in regularity, length, depth, homogeneousness of body density, motility, etc., of the units to a far greater degree than during the epidemic.

The loss of animal tissue affinity or even disease-producing power by bacterial protoplasm obtained from local areas in which the general bacteremia resulted in definite disease, has already been considered in the necropsy studies. But, unlike the epidemic material, not infrequently, reactivation by plain bouillon, even in the case of gram-negative rods, failed to induce a power of disease production beyond a mild enteritis, or the functional change was erratic.

Fixation, more or less transient, of one or more characters of generalized bacterial protoplasm, was observed in a few cases during the epidemic studies, and experimentally.

The bacterial protoplasm, generalized, as deposited by the epidemic, following its distribution, showed tendencies toward a fixation of different characters, even as involved in acute sporadic diseases, many cases of which were not unlike those observed during the epidemic.

GENERAL CORRELATION: BACTERIOLOGIC FINDINGS

In the acute cases of general disease, the related bacterial protoplasm was, most frequently, of the more generalized type, although some evidence of the fixation of characters was exhibited. In the ambulant cases, seen in the office, whose sputa, bloods, urines, etc., were studied, irrespective of evidences of disease, the most preplexing bacterial problems were presented. Yet these perplexities really only rested on a most marked persistence in bacterial shape, as first observed, and not only the absence of animal tissue affinity, but chemical inflexibility (fixation of the character involved), and nonactivation by plain bouillon. In rabbits such cultures induced the mild enteritis already referred to, exhibiting, if not tissue affinities, at least power of growth in intestinal tissues. Bacterial protoplasm from blood cultures of ambulants, was found to be especially inflexible with regard to activation to the point of disease-production by plain bouillon.

From apical abscesses of human teeth, in general, during the winter, the common forms of streptococci were obtained, which soon died in plain bouillon. And yet, bacterial protoplasm from one tooth, streptococcal in form, did not die in plain bouillon but showed slight tendencies toward an elongation of the cocci and, following the inoculation of the culture into a rabbit, produced a most intense form of respiratory inflammation. Subcultures from the rabbit, at first contained very short, gram-positive rods. These slowly metamorphosed to gram-negative rods.

In time, as already mentioned, often after several months, metamorphosis did occur and gram-negative rods developed. From the areas of chronic enteritis, or the dung from inoculated but healthy rabbits, generalized bacterial protoplasm was reobtainable.

And yet, ambulants also provided from ears, noses, urines, etc., typical cultures, green in color. In these patients the combinations in bacterial form and function were illimitable.

Rare exhibitions of fixation of bacterial protoplasm in an active, specific, disease-producing state were observed. The kidney culture alone, of all the cultures of Miss H., induced rapid glomerular destruction in a rabbit. A typical rod in green culture, from the urine of an office patient, induced a pyonephritis.

CONCLUSIONS: POSTEPIDEMIC STUDIES

In answer to the first question: What became of the bacterial protoplasm involved in the epidemic? After the epidemic it was distributed far and wide throughout the community. The distribution was not associated with the epidemic state of disease. Part of the living material, as distributed, must have retained various degrees of animal tissue affinity, or at least the power of growth in intestinal walls, just as did the specimens obtained for study. Being generalized and adaptable, much of the protoplasm was also, undoubtedly, in a purely saprophytic state. It lodged in the old diseased foci, the respiratory and intestinal tracts of human beings. It became the bacterial factor in a great variety of sporadic disease states, or those limited to the individuals involved. Many of these postepidemic disease pictures simulated those observed during the epidemic, but the interpretation of the bacterial findings was complicated by pronounced tendencies to fixation of characters, a condition especially marked in cases of chronic focal disease. The disease entities were secondarily developed, and were not a direct continuation of the epidemic itself. Under common exciting influences, such as cold, many individuals were sick of a common disease at the same time, but these entities were not transmitted. They were not epidemics due to contagion, at the time, by any kind of agent, but were based on bacterial protoplasm previously distributed. This conclusion was reached by Rosenow in relation to epidemics of acute poliomyelitis.[3] Various degrees of fixation of one or more characters were observed, whereby well-known types of bacteria were simulated in both form and activity.

The second question, as to the fate of the flora previously existing in the community, is impossible to answer with assurance. It was certainly very largely displaced. At the apices of diseased teeth, typical streptococci were indeed quite frequently found. To what degree fixation could be instituted in the characters of the generalized bacterial protoplasm has not been determined. The streptococci mentioned were sufficiently fixed to die very rapidly in plain bouillon, a rare fate for any of the other bacterial forms obained at the time. Probably, these delicate, fixed, chained cocci existed as such before the epidemic.

It is easy to believe that, in a struggle for existence, the specialized units of life would go down before the more adaptable, and generalized.

Comparing the morbidity reports for the periods: March, 1916-17, and March, 1917-18, for the city of Wilkes-Barre, the mortalities varied by only a single case. Deaths from pneumonia were almost exactly the same. The reported cases of typhoid fever were forty-four for the first and seventeen for the second period. The cases of diphtheria, curiously enough, were more than doubled. There were a few more deaths from gastro-intestinal disease in the second period. Of course, there was the epidemic of meningitis in the spring of 1918.

Evidently, an understanding of the bacterial factor of both epidemic and post-epidemic conditions, is based upon the consideration of the presence, and degree of stability, of separate characters of living bacterial protoplasm, as opposed to that of specific types of bacteria.

GENERAL CONCLUSIONS

In France, the epidemic of psittacosis, a disease quite regularly a pneumonia, which produced a mortality of 30 per cent., was due to bacterial protoplasm, more or less fixed in characters. It has been endemic ever since among parrots, and transmitted to human beings as such. In Wilkes-Barre, an epidemic of disease transmitted from parrots, rather indefinite in type, of low mortality, was due to bacterial protoplasm, unfixed in characters. Ever since, irrespective of the absence of parrots, peculiar types of disease have been present, but they have been founded upon renewed activities of the bacterial protoplasm distributed during and since the epidemic, and in the interim in a quiescent, practically saprophytic state. These renewed activities were associated with exhibitions of bacterial character fixation.

73 West Northampton Street.

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[3] Results of Studies on Epidemic Poliomyelitis, by E. C. Rosenow; Collected Papers of the Mayo Clinic, IX, 1917, p. 656.

SELECTIONS

REPENTANCE AND REPARATION

The Christian world is interested to know whether Germany will repent the long series of crimes which is charged to her account. The astounding manifesto put forth early in the war by a group of her university professors, theologians and religious leaders was a shock to the religious sense of the civilized world. These men declared their belief in the validity of Germany's conduct and gave their full endorsement to it. Much water has run under the mill since then and people are wondering whether the minds and consciences of those men have been awakened so that they realize the depth of the abyss into which Germany has fallen. If she repents and acknowledges that she has violated all principles of honor, justice, decency and right the world will be quick to recognize her new attitude and will be willing to receive her again into the family of nations. If she does not repent and receives the punishment which is bound to follow with hardness of heart and a secret longing for revenge, she is quite sure to be treated as an outcast nation unworthy to be trusted. There are some slight indications that the German people are beginning to realize what has happened and to mourn the loss of their national honor. The spirit in which they make the reparation to her demands by the Allies will show what her real spirit is.—*Christian Work.*

STATE HEALTH INSURANCE

At our last meeting in September we were addressed by Mrs. Barbara Grimes, secretary of the commission appointed to collect data which might guide our state legislature in forming an intelligent opinion as a basis of action in the question of state health insurance. Mrs. Grimes' address seemed to reveal the fact that this commission has not only gathered data but that it has come to its own conclusions and formulated a bill anticipating the legislature by campaigning in advance of any action on the part of the latter to the end that such a public opinion be created as will make mandatory upon the legislature the accepting of these predigested conclusions. Mrs. Grimes informed us that their conclusions and bill are the result of a critical and statistical study of something over 150,000 cases of need coming into the hands of the associated charities of our state and quotes this body with supplying the liquor interest of California with a most powerful argument in their behalf, namely, that liquor contributed but 4 per cent. of this need. It has been the impression of us lifelong workers in the field of suffering and want that the millions annually spent for drink neither contributed to the drinker's health nor to his ability to keep himself off the charity of his neighbor when overtaken by illness. This impression Mrs. Grimes informs us was true in only a negligible 4 per cent. of these cases. O, Veritie, thou hast always been clothed in the saintly vesture of figures! Thou dost well in avoiding the doubtful company of lowly temperance workers in thy most high and worthy purpose.

We were informed and supplied with documentary evidence from unhappy and war-devoted England that with the great majority of her physicians serving, or dead, on the fields of Flanders and France, that those remaining at home and working under this system do not experience crowding competition from those saviors of men in those lands where God has forgot. In answer to questions we learned also that workers in this field of human need have apparently come to the conclusion that the remedy lies not in better wages, better habits, better thrift, a better sense of obligation to one's fellow man that the individual's first sense of duty is not to keep himself out of the poorhouse and off the charity of his neighbor in such a manner as will push no neighbor in. Only that the physician seems to have been paid too much for what he has undertaken to do. And that from this sum must be subtracted enough to pay hospital service and disability pension and maintain the supervisorial and clerical political machinery to keep the new order in action. (*Jour. A. M. A.* is authority for the statement that the average income of the doctor is much less than $1,000.00 a year).

All will agree, physician and layman, that the present system is not desirable. We who through the ages have been dealing with this problem believe that the proposed remedy is neither to the best interest of the physician or patient or state. So far as the former is concerned it proposes only to reduce his rate of service and retain all the evils of the present system intensified with the exception that the pittance allowed him will be paid. It proposes without asking consent to say to the most technically trained and most thoroughly law restricted group of men (look over a medical dictionary) that you have been excessively rewarded for your work, that you have been standing in the way of remedying the evils of poverty, that henceforth you must continue as in the past to carry mankind's greatest responsibilities and their consequences but at a rate that your struggle for your children's bread will grow keener that you must become as the majority of your brothers in Germany who under twenty years of such a dispensation have reached a level where the masses of people receive some of the worst medical service in Christendom.—From *San Diego Med. Bul.*

HOW ONE HOSPITAL FACED THE STRAIN

(*From Public Ledger, Oct. 22, 1918*)

A RECORD OF HEROIC DEVOTION AND SELF-SACRIFICE BY NURSES, DOCTORS AND VOLUNTEERS

To the Editor of Public Ledger:

Sir:—In the dark days of the deadly epidemic which has swept over us like a flood for the last three weeks, it may be cheering to learn how the morale of one hospital stood the strain, and the valor of those within and the help of those outside.

With twenty-five or thirty nurses ill and off duty, those left to do the work were often overworked, and yet when the first pupil nurse died (we lost four in twenty-four hours), little slips of paper were left on the desk of the directress of nurses, asking that their hours off duty might be canceled that they might help out in the wards. The directress herself stayed on duty until midnight, until the nurses no longer needed her. The pharmacist stood at her post for days, with her sister in a critical condition in a neighboring hospital, taking only her lunch hour to go and see her.

The pupil nurses who died were patient and heroic; death took some of our best; and their parents sat by their bedsides with mute, uncomplaining fortitude. The undertaker, a man of high standing in the city, told the chief resident, who went down with the mother of one of the dead girls, that she owed him nothing, and offered his services for any nurses who died in the hospital, free of charge.

The one cook in the nurses' home, who cooks for 190 to 200 persons daily, became ill, and the whole of the cooking was done by the housekeeper, a frail woman, who not only cooked but saw to her own duties as well. The probationers entering on the first of October all stayed. The nurses' aides, ten of them, worked in the influenza wards as well as elsewhere as faithfully and as hard as the nurses, and that is high praise. The chief resident physician, during the last pitifully short illness of the four pupil nurses, did not take off his clothes for three nights.

The social service workers gave most of their time to helping the visiting nurses. Some of the resident physicians gave their services through the social service to families unable to obtain a doctor. The widow of one of Philadelphia's greatest men gave $3,000 in memory of her husband "to fight the epidemic." Another lady, hearing of our need for an ambulance, gave us her Dodge car, which was transformed into an ambulance in a few days. Several people sent their motors to take convalescent nurses out daily.

Volunteers came in in sufficient numbers to make the carrying on of the clerical work and the ward kitchens possible. Three have been helping continuously in the bookkeeping department for some time. They have worked in the gauze room, making dressings all day. School teachers worked in the laundry and scrubbed the ward kitchens on their hands and knees. For several days two volunteers came and pared fruit and vegetables all day long. There are four wards given up entirely to influenza and pneumonia patients, and an isolation building to the ordnance department, so that work was strenuous everywhere. But no one failed and there was nothing but willingness and eagerness to "carry on." Surely such deeds are worthy of being "mentioned in dispatches."

MARION E. SMITH,
Superintendent of University Hospital.
Philadelphia, Oct. 21, 1918.

HOW CAN A WOMAN BEST HELP?

BY ALICE DUER MILLER

Practical experience of the war shows that the degree to which a soldier can recover is in a large measure a question of his state of mind; and his state of mind is usually a reflection of the state of mind of his wife or his mother. Women have always known in a general way that mental attitude has much to do with a patient's recovery in ordinary illness. Now we see that the same thing is true of the man who has contracted tuberculosis, has been blinded, has lost an arm or a leg, or is suffering from any of the physical or mental diseases that war leaves in its wake. The hope of his future lies in making him believe he has a future. His return to useful activity depends on his own conviction that he can be useful. The instant he is content to be an invalid he will become and remain an invalid.

To prevent his losing hope, to keep up his sense of responsibility is in the power of his womankind. That is why it is necessary that every woman who has a man on the other side should understand what the government is trying to do for him, why it is doing it, and how she can help.

First of all she ought to know that each man's pension will be continued, however little or much he progresses on the road to health and self-support. The government does this not only from a sense of justice, but because, knowing that recovery is largely a mental state, it realizes that it would be setting up an obstacle, if it should penalize a man for recovering by taking away or even decreasing his pension.

Then, women should see that the government is doing this for the sake of the wounded men themselves. Protection of the health of soldiers while they are part of the fighting force, is for the sake of the army. But this reeducation of wounded men for civil life is done in the interest of the individual. In past times, governments have found it cheaper to entomb such men in institutions for incurables and in soldiers' homes—to pay them their pensions and forget about them. The present idea is that the country owes them more than their pensions; it owes them the fullest possible return to a normal life.

But in order to return them to normal life it will be necessary to retain control of them beyond the military hospital. There must first come bedside treatment, of course—the direct medical or surgical treatment for the disease or wound; then the special treatment necessary to fit him for his selected occupation; then, outside the hospital, his training in a vocational school; and then at last his entrance on his industrial job.

In every step the help of women is essential; not only in cheering him during the first stages, but in encouraging him to follow patiently and exactly the detail of his training—a routine more wearisome to many natures than fighting.

Our government asks that we use our love to strengthen the will of our wounded—not to weaken it. This may sound like a harsh thing to say to a woman who has sent out a strong healthy man and receives him back blinded or crippled, until we remember that the object of it is to save the soldier and to keep alive in him the courage that was by no means all expended at the front.

The shock to the man who wakes up after the operation to find that he has lost an arm or a leg is not only the shock of his own handicap, but the horror of being a dependent—something useless and abnormal. Too much sympathy of the wrong kind intensifies this feeling, instead of decreasing it. And as a matter of fact, it is not true; with the help of modern science, the handicapped man can still attain a high degree of usefulness and activity.

The recovery of our disabled soldiers—their return to a useful life—is in the control of the women of this country. No war work that has ever been offered to us is as important—or perhaps as difficult.

But it can be done only with the help of women—only if wives and mothers and sisters will give as much pride and self-sacrifice to the return of their men to civil life as they gave to sending them away to the colors.—*Carry On.*

Blind Babies No Longer.—Annie Elizabeth Reeder of Ridgway, and Edith Florence Slosser White of Clarks Green, who entered the International Sunshine Home for Blind Babies at Summit, N. J., as wee bits of humanity, blind and helpless, have graduated from the Baby Home. One goes to the Overbrook institution for the blind, and the other to the Pittsburgh institution for the blind, as exceptionally bright and healthy little girls. Annie Reeder is 8 years old and Florence 9. Both had many "blindisms" to overcome, but today, thanks to the exceptional care the state of Pennsylvania gives its blind, they are entering schools of higher education where they will be taught the advanced studies and be made self supporting.

CALCREOSE

Calcreose is a creosote product, made in the United States of America by an American manufacturer. Clinicians have used it with good results in the treatment of all forms of bronchitis and especially the bronchitis accompanying pulmonary tuberculosis. It has been taken for long periods of time, and in large doses, without causing gastric irritation or discomfort; no burning; no nausea. Calcreose is also valuable in gastro-intestinal infections. Incidentally, the price of this product is far below that of other creosote products of foreign manufacture. The booklet "Calcreose Therapeutics," which contains all information as to indications, dosage and method of administration, may be obtained by writing to the Maltbie Chemical Co., Newark, N. J.

A SUGGESTION FOR SPANISH INFLUENZA

In view of the success obtained by Woolley at Camp Greene, and by McCord, Friedlander and Walker at Camp Sherman, in preventing diseases of the upper respiratory tract, such as meningitis, measles, pneumonia and diphtheria, by local use of chlorazene and dichloramin-T solutions, it is reasonable to believe that equally good results can be obtained with the same remedies in the prevention and cure of Spanish influenza.

The method employed at Camp Greene was to gargle or spray the throat three or four times daily with 0.25 per cent. solutions of chlorazene. The nasal pharyngeal tract was then sprayed twice a day, or more frequently, with a 2 per cent. dichloramin-T solution in chlorcosane.

This treatment, in association with acetylsalicylic acid and other salicylates, and the generous use of bacterins, has much promise.

CONCERTED ACTION PLUS SPECIFIC ADVICE

During the recent epidemic much lamentable confusion arose by reason of wide diversion of expressed opinion among medical advisers. Diverging opinions as to degree of virulence and contagion, as well as to prophylactic and therapeutic measures, were privately and publicly expressed by different physicians in every community. As a result, public confidence is further diminished and organized medicine has in all probability again failed to measure up to the high mark of its calling.

It has been suggested that each county medical society should constitute a committee on Public Health and Hygiene, such committees to be composed where possible of physicians skilled in laboratory work and the treatment of epidemic diseases. Working in harmony with the public health authorities, these committees should, early in the presence of threatened epidemics, prepare and spread before the public conservative, constructive, specific advice in the prevention and spread of disease. Advice as to hygiene and home nursing would not be amiss; in fact, failure to receive or to adopt such advice has undoubtedly cost thousands of valuable lives in the recent epidemic. Such committees should be prepared to pay, if necessary, for their publicity through the columns of the public press and on the screen in picture theaters.

The adoption and faithful prosecution of such propaganda would in time result in public health authorities and newspapers turning to our committees alone for such advice, and not to political or personal acquaintances among medical men.

A LITTLE BIT OF HEAVEN

Hundreds of very young children have been orphaned by grim death during the recent epidemic. For a large proportion of these unfortunates the future offers poor prospects. We sometimes think that physicians fall far short of their wonderful opportunities to find real homes for homeless children. Who knows better than the physician the priceless boon a little boy or girl might be to many a childless home; and who knows better than the physician that the fear of damaging heredity can be allayed by laboratory tests or overcome by improved environment! The selfishness of thousands of childless couples, with the knowledge of lonely little children, is a blot on our modern social structure. Physicians should constantly be on the alert and keen to bring together childless couples and orphaned children.

"THEY ALSO SERVE"

During the six weeks elapsing from October 1 to November 15 of this year some 42,000 citizens of this commonwealth died from influenza and its complications. Included among this calamitous total were many brave and devoted members of the Medical Society of the State of Pennsylvania, men and women, who, forgetting self and safety, thought only of those suffering and in need of skilled advice and service. To those who sacrificed and died, as well as to those who sacrificed and lived, be all honor and glory. Individually and collectively we should be proud of the attainments of our membership during the dread epidemic of 1918. We like to think that slackers and profiteers were few and far between. We do know of much quackery among drugless healers, spiritualists, etc.

SOME OBJECTIONS TO HEALTH INSURANCE

The following letter appeared in the *Texas State Journal of Medicine* in 1916, and was written by Alexander Lambert, M.D., then chairman of the Social Insurance Committee of the American Medical Association, and now president elect of the Association. Dr. Lambert has probably given the subject of health insurance more study than any other physician in America.

"The whole situation is this: You have an insurance company that is trying to go in as a middleman between the patient and the doctor. All previous experience shows that when once firmly established so that it can control the practice among the patients by giving them lower rates for medical service, the middleman in the end can dictate terms to the doctors and bid them down to absolutely inadequate remuneration for what they do. At first it looks very tempting to be assured of good, big fees for possible operations, which by their very nature relatively seldom occur and which are only done by a few surgeons, but the main work is among the patients with the small fees. Of course, when many are seen and one gets 100 per cent. collections, as would be done by the company paying it, it increases the income to the doctor because of the proverbial lack of collections that ordinarily physicians make.

"I think there is one pernicious factor in this scheme, and that is that the patients pay a varying fee of one dollar, sixty cents and forty cents, and yet the same service is given for the varying amount of returns. That, I think, you will find to be a vicious system. There is no question as to the possible value of this scheme. There is no question that the doctor getting 50 per cent. and the insurance company taking 50 per cent. for expenses and profit, makes a mighty good thing out of it, especially since it takes only very selected groups of lives. It takes the healthiest group of people in the community and offers them medical treatment. It practically becomes a variation of lodge practice among selected lives and under capitation system. It has all the possibilities of the evils under this system. If there are a great many patients under one doctor's care, and a good deal of sickness, even in these selected lives, the doctor must give a hurried service and an inadequate service, even for these small fees. It comes right down to the evils for which lodge practice is held in contempt—that of inadequate remuneration for poor medical service.

"As far as the health insurance scheme is concerned, it is perfectly inadequate. You can not choose the healthiest lives in a community and give them selected service on small pay and think you are doing anything for the community in the way of health insurance, because a health insurance scheme must take in all lives, good and bad, the very sick as well as the very healthy, and must give good service to all. This scheme which you have sent me successfully avoids any medical service, except to the unusually healthy.

"There is the danger in all these schemes of debauching a community in its ideas of medical service when done on a commercial basis, such as this. It gives the idea to people that they can get medical service for almost nothing, and in the end it comes down on the doctor under lay control that deliberately makes the physicians bid against each other and produces all the evils of capitation system or lodge practice. It is the beginning of the condition against which the physicians in England fought so bitterly and complained of so bitterly just before their insurance act was enacted. The insurance companies make anywhere from 17 per cent. to 35 per cent. out of what they collect, and any middleman will gladly undertake the job to sit still and do that, letting the doctor do the work."

Sincerely yours,
Alexander Lambert.

AGAINST COMPULSORY HEALTH INSURANCE

Frederick L. Hoffman, the most reliable statistician in America (if not in the world): "As a matter of fact, the alleged increase of twelve years in the longevity of the German male adult population under health insurance and longevity in consequence thereof, is a thoroughly misleading statistical assumption, and contrary to the facts of the German official life tables correctly interpreted in conformity to qualified statistical and actuarial judgment."

Samuel Gompers: "This fundamental fact stands out paramount — that social insurance can not remove or prevent poverty."

Dr. Matthew Wells, president of the International Photo Engravers Union: "Health insurance is founded primarily on incompetency and improvidence."

Arthur T. Hadley, president of Yale University: "We need measures which shall increase individual responsibility rather than diminish it; measures which shall give us more self-reliance and less reliance on society as a whole. We can not afford to countenance a system of morals or law which justifies an individual in looking to the community rather than to himself for support in age or infirmity."

Lloyd George: "The number of dependents on medical charity has not decreased since the enactment of compulsory health insurance laws in England."

Illinois State Medical Society: "The statement that it will not decrease poverty is true, because the employer, in order to keep his assessments low, will carefully choose his employees, selecting only the healthy and excluding the others by medical examinations, and therefore there will be a strong tendency to the formation of a large permanent pauper class; because under all the schemes for compulsory health insurance as yet proposed the persons most needing the insurance will not get it; i. e., those who are out of work; those who are unable to get into the voluntary insurance societies, because they are unable to pass the medical examination; those who are not insured because of their age, alcoholism, shiftlessness, general incompetency, or any other disabling condition which prevents them from being employed. In times of financial distress or panic, these unfortunate conditions will be magnified many fold.

"Attempting to get something for nothing, or much for little, always pauperizes people, and this is just exactly what compulsory health insurance encourages. Children can be educated fairly satisfactorily in mass, but sick people can not be successfully treated by wholesale methods. Taxation, we will concede, is of benefit in our educational system, but there is no proof that we could benefit the state by taxation for health insurance."

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported up to November 21:

Allegheny County: *New Member*—Charles E. Ziegler, Pittsburgh. *Deaths*—Robert R. Krueger (University of Pittsburgh, '16) in Pittsburgh, November 10, aged 29, from pneumonia; Milton Sylvester Sell (University of Pittsburgh, '08) in Pittsburgh, October 30, aged 40. *Removal*—Henry M. Hall, Jr., from Pittsburgh to Grindstone (Fayette County).

Beaver County: *Death*—James W. McLaughlin (Georgetown Univ., '08) in Beaver Falls, November 10, aged 36, from influenza.

Center County: *New Member*—John Sebring, Bellefonte.

Chester County: *Deaths*—John Henry Burkartmaier (Jefferson Med. Coll., '11) in Avondale, October 18, aged 35, from influenza; Charles J. Reimer (Jefferson Med. Coll., '11) in Phoenixville, October 13, aged 32.

Columbia County: *Death*—J. Sanderson Lazarus (Jefferson Med. Coll., '68) in Bloomsburg, October 19, aged 76, from heart disease. *Removal*—John C. Wintersteen from Numidia to Bloomsburg.

Dauphin County: *New Member*—Gurney M. Schminky, Gratz. *Transfer*—Andrew Jackson Greist, Steelton, from Clearfield County Society. *Deaths*—DeWitt C. Laverty (Jefferson Med. Coll., '77) of Middletown, in Harrisburg, November 14, aged 62, from appendicitis; Hyman R. Wiener (University of Maryland, School of Med., Baltimore, '12) in Harrisburg, recently, aged 29, of pneumonia. *Removals*—John H. Bryner from Bowmansdale (Cumberland County) to Grantham (Cumberland County); Charles M. Rickert from Millersburg to 2423 North Sixth St., Harrisburg.

Fayette County: *Removal*—Joseph Giorgessi from Brownsville to 200 Fifth St., Braddock (Allegheny County).

Lackawanna County: *New Member*—Lewis C. Druffner, Avoca (Luzerne County). *Removals*—William L. MacDougall from Scranton to Laceyville (Wyoming County); William J. O'Malley from Scranton to 1531 North Tenth St., Philadelphia.

Lancaster County: *Deaths*—Winfred H. Daniels (Jefferson Med. Coll., '14) in Lancaster, October 14, aged 32, from influenza; Thomas Reed Ferguson (Jefferson Med. Coll., '06) in Kirkwood, aged 34; John W. Kinard (University of Maryland, Baltimore, '82) in Lancaster, October 8, aged 60; from pneumonia; Elmer E. Lenhardt (Temple Univ., '09) in Millersville, aged 35.

Lebanon County: *Death*—George Rupp Pretz (Johns Hopkins Univ., Baltimore, '09) of Lebanon, in Syracuse, N. Y., September 30, aged 38, from influenza.

Luzerne County: *New Members*—Henry W. Deibel, Max R. Dinkelspiel, Edward R. Roderick, Wilkes-Barre; W. A. Foster, Fairview (Erie County); Sanford L. Underwood, Pittston. *Death*—William C. Reese (University of Pennsylvania, '10) of Wilkes-Barre, recently, aged 34.

Lycoming County: *New Member*—Raymond J. Bower, Duboistown. *Removal*—Adelbert D. Dye, from Masten to Williamsport.

McKean County: *Deaths*—Rufus Alvin Egbert (University of Michigan, Ann Arbor, '75) in Custer City, November 5, aged 69, from pneumonia following influenza; William Henry Monagan (University of Pittsburgh, '12) in Mount Alton, aged 37, from influenza.

Montgomery County: *Deaths*—Flora Parker Easton (Woman's Med. Coll. of Pa., Philadelphia, '01) in Norristown, October 25, aged 46, from pneumonia; Monroe Dart Youngman (Hahnemann Med. Coll. and Hosp. of Philadelphia, '11) in Ardmore, October 8, aged 32, from pneumonia following influenza. *Removal*—Charles J. Swalm from Conshohocken to 1330 West Rockland St., Philadelphia.

Philadelphia County: *Deaths*—Thomas G. Aller (University of Pennsylvania, '10) in Philadelphia, October 29, aged 33, from pneumonia; Charles V. Dorwarth (University of Pennsylvania, '10) in Philadelphia, October 8, aged 31, from pneumonia following influenza; Adolph Cohn (Medico-Chirurgical Coll., Philadelphia, '13) in Philadelphia, October 7, aged 26, from pneumonia following influenza. *Removals*—Ricka S. Finkler from Philadelphia to 71 East 118th St., New York City; A. Bern Hirsh from Philadelphia to 71 west 94th St., New York City.

Schuylkill County: *Deaths*—Robert B. Gray (Medico-Chirurgical Coll., Philadelphia, '94) in Port Carbon, October 19, aged 52; John Frank Marshall (University of Pennsylvania, '07) in Ashland, October 9, aged 36, from influenza. *Removal*—Paul C. Boord from Silver Creek to 12 Lawn Ave., Uniontown (Fayette County).

Somerset County: *Death*—Walter Scott Mountain (Philadelphia Univ. of Med. and Surg., '70) in Confluence, October 27, aged 80, from pneumonia.

Sullivan County: *Removal*—Silas D. Molyneux from Sayre (Bradford County) to Blossburg (Tioga County).

Washington County: *Death*—Nicholas S. Veatch (University of Pennsylvania, '73) of California, in Philipsburg, October 25, aged 75, from injuries received by being struck by a train. *Removal*—Leroy W. Hoon from Monongahela to 116 South New St., Bethlehem (Northampton County).

PAYMENT OF PER CAPITA ASSESSMENT

The *per capita* assessment for the year 1918 has been received from component county societies since October 22, as acknowledged on page 79 of the November Journal, as given below. The figures in the first column indicate the county society number and those in the second column the state society number.

1918

10/26	Lackawanna	195	6845	$ 2.75
10/26	Lycoming	103	6846	2.75
11/ 2	Allegheny	1103	6847	2.75
11/12	Luzerne	201–205	6848–6852	13.75
11/12	Dauphin	154	6853	2.75
11/20	Center	26	6854	2.75

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

DECEMBER, 1918

THE MEDICAL PROFESSION AND THE WAR

Physicians have had much, very much, to do with the successful prosecution of the war, in the selection of volunteers and selective service men, in camp and on the battle field. Though hostilities have ceased there is still much for the physician to do with the armies that remain abroad (it remains to be seen how much we must do for the Allied armies and for the devastated countries of Europe and Asia), in the reconstruction camps and hospitals in this country, and in the battles for health and better living here at home. Let us hope that newspapers, politicians and our state and national governments will listen to the sane advice of the medical profession in these days of "democracy." The training that has been given the physicians in the service will not only the better fit them for the successful practice of medicine but make them more deserving of a voice in the shaping of the affairs of communities, states and the nation. May we not also expect that they will be the more ready to give a reasonable amount of their time and energies to organized medicine and to the public welfare. "Peace hath her victories no less renowned than war," and may we not predict that the physicians who have served the government and their communities at home during the trying days of war and the recent epidemic, and the commissioned physicians, who have borne the brunt of army life and battle and been permitted to return, will join hands in an effort to make our profession more useful and our country better and better.

Our readers who have not been so fortunate as to see the excellent article, "Uncle Sam, M. D.," by Samuel Hopkins Adams, in *Collier's*, of Sept. 21, 1918, will appreciate the opportunity to read the following paragraphs excerpted from this article:

THE LESSON OF THE SPANISH WAR

What has established our Army Medical Department on a plane of such excellence that Germany has inaugurated a system of specialized murder to offset it? The self-sacrificing spirit of the American medical profession at large, which has volunteered in proportions far beyond that of any other profession or pursuit, fitting into a system which, quietly and painstakingly built up for the last twenty years, took upon itself the tremendous strain of our war emergency, and drove forward with the flawless precision of perfectly prepared and adjusted machinery. The vast and complex job of making over our peace doctors into war doctors is the nearest thing to 100 per cent. achievement that the Government has yet performed in this war. Preparedness did it.

The Spanish-American War left to our army medical service a residue of shame, wrath, and self-realization. The department recognized the ineptitudes and failures of the service; they were scored in black in the terrific camp mortality. It knew also that the proper blame lay not with itself alone, but largely with the "line," which had ignored expert plans and suggestions. Its resentment took constructive form. It began, by a still, slow process of upbuilding to prepare for the next war, whenever it might come. Nothing was done in the open until 1906, when the department went before Congress with an expansion bill. Congress was too busy with politics or pork to consider it; it died of inanition. Don't blame Congress too harshly; remember that right up to April, 1917, most of us were too busy with our own private politics, or pork, to pay much heed to the war. But the surgeon-general's office kept quietly at it, and in 1908 the newspapers recorded in a brief paragraph the passage of a measure, lacking which those same newspapers would now be filling columns (and quite justly) with the disastrous breakdown of an overworked and undermanned army medical service. For that law, permitting the addition to the inactive list of medical officers as needed, was the nucleus of today's vast Medical Reserve Corps, no longer in reserve.

CALLING THE MEDICAL RESERVES

Did the Surgeon-General's Office thereupon cast a casual dragnet and bring in callow young Dr. Smith, fresh from a fifth-rate medical night school, and superannuated Doc Jones, and dubious "Professor" Robinson, skirting the shady edge of quackery? Not exactly. It enlisted such leaders as Welch and Finney of Baltimore, Billings and Bevan of Chicago, Vaughan of Michigan, the Mayo brothers, Cushing of Cambridge, Dyer of New Orleans, Abbott and de Schweinitz of Philadelphia, Longcope of New York, Seelig of St. Louis, Dean Russell of Columbia University, and others of their stamp. They took the modest rank of lieutenant without pay.

"Go on with your work until we call you," said the Surgeon-General's Office.

The call came, with the nation's call to war. Sixteen hundred of the cream of the medical profession answered: "Ready." So skilfully had the selection been made that 40 per cent. of them had had some military experience. In the first three months of war more than a thousand of these men had dropped their practice and gone into executive positions in the Surgeon-General's Office, oversea to immediate duty, or out into the cantonments to man the hospitals and stand guard over the health and well-being of an army growing at the rate of 75,000 per month. Sanitarians, surgeons, alienists, bacteriologists, chemists, dietitians, Roentgen-ray specialists, diagnosticians, general practitioners, hospital executives, lecturers, and instructors, representatives of every recognized specialty reported "Here" and took their places and their orders. It was all done so quietly that the public never noticed it, in the clamor and confusion of our racing, racking, pounding war machine in the early days, desperately striving to get under way over a rough, uphill road. All that the public heard was reports of epidemics, quickly checked, in the various camps. That such epidemics are an inevitable corollary to the herding together of vast numbers of men, it did not realize. Nor did it stop to consider that, without that devoted and skilful medical army of protection, the epidemics would have spread beyond control, and we should have started the war with a disaster.

Meantime the general staff came to the Medical Department with a question to which they dreaded the answer: "What have you got in the way of medical equipment?"

"Enough for thirteen full divisions," was the instant and exact response.

It was true. Instead of following the prescribed course and turning back unexpended funds to gain a reputation for economy, the authorities had employed the surplus to purchase and store away medical and sanitary supplies against the coming need: mosquito bars, instruments, drugs, surgical appliances, hospital cots, and a vast range of other material not liable to deterioration. All professional soldiers think war in time of peace. The medical soldiers had transformed thought into action. They were prepared.

On the side of personnel the medical service was, of course, wholly inadequate, just as all the rest of the Army was, to fulfil the enormous demand. But that unnoted medical researve scheme enabled the Surgeon-General's Office not only to supply the immediate and imperative need, but even afforded it a little leeway. More than this, the authoritative professional character of the reservists furnished the best possible incentive to recruiting the high grade of physicians needed, so far as technical requirements go. Technic, however, is only half the matter. An army surgeon, in this war, is a soldier with a medical diploma, and eventually not less than 35,000 would be needed.

On the morning of our declaration of war there was placed on the Surgeon-General's desk a plan for the progressive expansion of the medical service, through fully equipped training camps, which was complete in every detail. To the broadest medico-military knowledge of any living American, Surgeon-General Gorgas adds the executive ability to decide instantly and accurately on the most complex problems. He indorsed the plan, *in toto*, and referred it to the general staff. Here occurred an unfortunate delay. One precious month was wasted before, on May 10, the general staff approved the plan, the delay meaning just so many more medical officers necessarily detailed to immediate duty without the invaluable military training of the instruction camps. For, up to this time, the only medical training camps for officers had been tiny and casual aggregations of perhaps forty men at a time. A little work had been done in the border Army, watching Mexico. But so dimly were the necessities of modern warfare apprehended that some of the state militias actually lacked any ambulance corps, and had to borrow from better equipped organizations. When, at length, the red tape binding the new plan was loosed, three medical officers' training camps were started, practically overnight, and mainly in the form of tent settlements.

Three great training camps springing into ordered and equipped being and all working at top speed and by intensive methods have performed the miracle; Camp Greenleaf at Fort Oglethorpe, Ga., which is to be the final merger of all medical training camps; Fort Riley, Kan., and Fort Benjamin Harrison, Ind., the latter already merged with Camp Greenleaf on the medical training side.

Up to date these camps between them have succeeded in supplying every call made on them by the vast organization of cantonments, hospitals, field divisions, and oversea detachments, and doing it on the punctual dot of time. For they are working against imperative necessity. There are many things that an army can do without if it must—but not doctors.

Time and again — the Surgeon-General's Office admits it in whispers — they have been just one jump ahead of disaster. But they have always managed to make the jump.

THROUGH THE ROUTINE

The experts chiefly responsible for this experiment in the impossible made possible, are, besides the Surgeon-General, Col. E. L. Munson, the author of the general training plan for medical camps, divisions, hospitals, posts, etc.; Col. Henry Page, who preceded Colonel Munson in the administrative control of Camp Greenleaf and is now there with him; Col. W. N. Bispham, at Fort Riley; and Col. P. M. Ashburn, formerly at Fort Benjamin Harrison and now attached to the Surgeon-General's Office in Washington.

They, with their staffs, have achieved a work of mobilization unequaled in all the wonderwork of army building which the nation is just beginning to appreciate.

I have recently followed the process, step by step, of the making of a medical officer; "presto-changing doc into cap," as the official of the Surgeon-General's Office to whom I applied put it. "All right," he added. "Go down to Camp Greenleaf and report to the C. O. (commanding officer; in this case, Colonel Munson) and you'll get a chance to go through the routine."

Accordingly I went to Camp Greenleaf, which is at Fort Oglethorpe, which is on the site of the battle field of Chickamauga—the trench-digging detachments frequently come on bullets, shell fragments, and other relics of the Civil War—where, as mobilized, doc expressively puts it: "it's hot in the morning, hotter at noon, and hell at night." Scattered through the park were tents, barracks, and hospitals holding some 12,000 men being trained to medical service, 1,100 of whom were the medical-student officers whose life I was to live for the time. Of course I lost my way; everyone does on his arrival. I got in by a side road and gained my first vivid impression of the place from a panting, fat, and perspiring figure which went pounding past me on the hard road. The figure was somewhat excessively clothed for a temperature of 102 degrees, having a sweater over its heavy woolen shirt and a coat over that. It dashed madly up a steep hill, dashed madly down again, and then dashed madlier up a still steeper hill. It was reducing its fat to the requirements of military life.

Nothing more typical did I see in my stay at the camp. Pretty much every student officer there was doing the same thing in one form or another. It was not necessarily physical fat that they were reducing, but slothfulness of habit, easeful ways of life, the thousand and one little self-considerations to which the man of established position in the world unconsciously succumbs. Those eleven hundred "students" were, for the most part, men of importance and position in their own communities, many of them even of marked attainments and national reputation in their profession. It is no exaggeration to say that no other military organization in existence today represents so high a sum total of brains, standing, and achievement. And their one important business in life was to sweat themselves down, through the hard routine of enlisted men (though retaining, in abeyance, their rank as officers), plus the severest kind of intensive technical education, into fitness for military service. Their fitness for medical service is assumed after they have passed the examinations for admission.

Headquarters promptly assigned me to a cot in a barrack housing twenty-eight student officers, which I shall designate as X Company, and for a period I became part and parcel of a decidedly active, not to say overcrowded, life.

DOCTORS OF DEMOCRACY

In being assigned to X. Company I was blessed of the Fates—so X Company assured me. X. Company is the crack company of the best battalion in Greenleaf. I have it on their own authority. Like the Boston subway conductor, they don't have to prove it; they admit it. If proof were necessary, they could point (and do) to a large red star, affixed to their barracks, inscribed "Banner Company." Anyway, I am ready to affirm that I don't want any better company for my medicomilitary career; and the fact that every other company I encountered enthusiastically described itself as the paragon of organizations, with various proofs if desired, has not shaken my faith in X.

And how essentially democratic it is! At the moment of my informal induction into the barracks, a bibliophile whose medical library is famous throughout his section of the country was holding his own in high forensic debate against the professor of ophthalmology in a great university as to which was responsible for not sweeping a minute piece of lint out of a remote corner. Near the door a surgeon whose beautifully accurate bone junctures are subjects of diagram in standard publications was profanely struggling with a blanket whose corners simply would not lie even to that degree required by the meticulous eye of the inspection officer. A noted authority on public health was meekly accepting the polite but decided strictures of a cub of a recently graduated medical student who was none the less an excellent officer. A rotund and scholarly appearing gentleman of middle age was getting a little extra exercise in the form of a wrestling match with a 50-pound chunk of ice which was giving him 150 pounds handicap and beating him at that. The joint author of a widely used textbook was painfully picking out his day's report by the one-finger method on a typewriter established on the window sill because there was no other place for it. The rest were studying in notebooks, polishing their boots, or disposing their scant outfits. I had chanced on what is known, by courtesy, as a "leisure period!"

Life in medical training quarters is, as our top sergeant puts it, "one giddy round of nothing-to-do-but-work." Some sights are too sad for tears, as the poet has stated, and the spectacle of a 50-year-old easy-chair consultant, who has added 1 inch per year to his waist line, essaying to touch his toes thirty times running without bending his knees, is one of them. Twenty minutes of the assorted calisthenics, however, produces the paradox of increasing the appetite while decreasing the girth. It is an earnest lot of eaters who troop into the mess hall and tackle Uncle Sam's grub; excellent of its kind and plenty of it. Our Army prides itself on being the best fed in the world. After that the more expert eaters have time to fold their bed clothing and stack their mattresses to the mathematical pattern required by the inspector. The slower ones do the best they can. The "All out!" call frequently cuts them short, and they tumble outside and fall in to march away and begin the day's schooling. This may start in with gas-mask drill, or equitation, or French, or tactics, or a quiz on supplies, or a practical lesson in camp sanitation, or manual, or instruction in the maintenance of morale, or trench work, or ambulance formation, or the establishment of a field hospital, or target practice, or the inspection of food. But, ten to one, it is military and not medical. Later on the students will receive intensive training in their own specialties, under the highest authorities in the professional world, an educational opportunity which no one medical college could begin to afford them; surgery, roentgen-ray work, sanitary engineering, diet, and a score of other branches. But for the initial fortnight or more the newcomer may as well forget that he is a doctor. The Medical Officers' Training Camp will help him forget it. It is there to make him a soldier. All else is subordinated to that purpose. If he can't be made a soldier, no matter how high his scientific attainments, he will never attain to the goal of active service.

A WORKING MILITARY FOUNDATION

Therefrom arises an occasional misunderstanding. From one of the eastern cities there arrived at Greenleaf an expert who, though not yet 40, is already recognized as an authority in his own department of practice. He affects the brusque, authoritative, self-confident manner of success, Very plainly he let it be understood on arrival that he had come to the M. O. T. C. merely as a concession to a custom which, however necessary in the case of less thoroughly equipped initiates than himself, was for him a sheer waste of time. Camp Greenleaf had nothing to teach him—though, of course, it was welcome to try. The examiner to whom he was assigned was more interested than impressed.

"Captain Wise-Guy," said he mildly: "Suppose you were directed to take charge of a sanitary train, for transfer to Camp Wadsworth, what would be your first procedure?"

"A sanitary train?" repeated the newcomer blankly.

"Yes. What is a sanitary train?"

"Why, it's—it's an outfit of hospital equipment and instruments and emergency tents and—and that sort of thing," groped the fledgling captain.

"What is its numerical strength?"

"I don't know."

"How long is it, in marching formation?"

"I couldn't say."

"Captain, a sanitary train is a mile long in line of march and comprises nearly a thousand men and officers. Do you think you could take one out tomorrow and get it into camp for the night properly?"

"No, sir."

"Do you think it would perhaps be useful for you to learn?"

"Yes, sir."

So Captain Wise-Guy goes into barracks with a number of other men, many of them quite as eminent and ignorant as himself, and undertakes to master this and some hundreds of other matters that had never been dreamed of in his philosophy.

Occasionally there arrives a medical veteran of the Spanish-American War, with some confidence in his military capacity. For such as he a question is devised, based on an enemy battery firing at high trajectory, a sheltering hill, and the disposition of the medical officers' supposititious squad in the place of greatest safety. Ten times out of ten he elects to keep the hill between his men and the battery. It is then in order to explain to him, in words kindly adapted to the incipient intellect, that the side of the hill which he has picked is under a steady shower of the high trajectory shells, whereas the slope nearest the battery is quite safe—and doesn't he think that a cursory consideration of the phenomena of shell fire would perhaps augment his unquestioned efficiency? If he possesses any judgment at all, he does!

But, however much or little he knows on arrival, doc does most unremittingly toil and sweat for his daily bread. If he is a tyro, he must be brought up quickly to such a minimum of proficiency that he won't disgrace his file on review. (And, by the way, I witnessed one review of the whole student corps, few of them of more than six weeks' experience, many of only a fortnight, and though it would be absurd to say that they exhibited the precision of long trained regulars, they did march with the swing and ease of real soldiery, and their formation was better than that of the average militia organization in peace times. Doc learns quickly.) If he has had experience, there is always plenty more for him to learn. Of one thing he may be sure: he will go forth with his education still incomplete, for he could stay there a year with profit to himself. But no man stays at Greenleaf a year. The call for medical officers is too incessant and exigent. All that the system now asks of the man is that he shall acquire a good working military foundation. Any day word is likely to come from the Surgeon-General's Office to this effect:

"Can you send out for immediate duty twenty-four officers between 30 and 35 years of age, graduates of Class A or B medical college, one year or more hospital experience, having special surgical experience?"

And the answer is always in the affirmative. But it means that the student officers must take their places in the war machine at the earliest possible moment of fitness. To crowd six months of education into six weeks of time: that is the aim of the M. O. T. C. It is intensive training at its most intense.

FEW FAILURES

To some of the volunteers it comes as a painful shock. They tell a story (without a sequel) at headquarters of a magnificent son of ease, a nerve specialist whose polished charm of manner won him a highly remunerative practice in the exclusive circles of his city, and his first appearance at camp. After going through his tests he applied at headquarters for some information and was referred to the adjutant. Now, an adjutant works only twenty-four hours a day; all the rest of his time is his own for sleep and recreation. Consequently he has ample leisure to answer such questions as the one which the social lion addressed to him, to wit:

"Which side of the barracks does the sun shine on in the afternoon?"

"The west side," replied the adjutant, surprised but courteous.

"Of course. But which side would that be in Company Z barracks on Letterman Street?"

"The right as you go down the street. Why?"

"Every afternoon," explained the new arrival, "it is my habit to take an hour's nap from four to five, and I should like to have my cot on the shady side."

The adjutant turned away to conceal a baleful gleam. "Quite so," he returned kindly. "Well, you just explain that to your company, and no doubt they will fix it for you."

How the company fixed it I cannot say (as stated above, this story lacks a sequel), but I am informed that anyone desiring to start a rough house in Z barrack has only to hum a lulaby in the presence of the medical son of ease, now radically reformed, and he will be accommodated.

What constantly impressed me was the readiness and good humor with which these mature and settled tyros adjust themselves to the hardening process of the camp. Setting aside the radical change in environment and all habits of life, the physical and nervous strain alone, one might suppose, would eliminate a considerable percentage, particularly of those over 40. For they literally have no leisure time whatever (except on Saturdays and Sundays) from 5:45 a. m. to 9:30 p. m., their "off duty" moments being devoted to study, and so insufficient therefor that the shower baths, which alone maintain lights after "taps," are often crowded with students huddled on their camp chairs and striving to overtake their quizzes, up to midnight. It is no longer considered good form, by the way, to creep up in the rear and turn the showers on these earnest pursuers of knowledge; even the most refined humor stales by repetition. The setting-up exercises, the drills and reviews, the orderly duty and the manual labor of the barracks would tax the endurance of the average college boy ten, fifteen, or twenty years younger than these "freshmen." Yet few drop out. And the only grouching I heard in the course of my stay was from the older men who, being excused from part of the exercise or drill because of physical condition, bitterly resented what they regarded as unjustified discrimination.

THE PICK OF THE PROFESSIONS

Lest life in camp should become too easy by habitude, the novices are from time to time introduced to that variegated exercise known as the "hike." To go on a hike, you pack up your troubles, consisting in dog tent, spare clothing, blankets, utensils, and the like, in your old kit bag, and smile yourself along a country road until you are permitted to camp for the night. As Company X had already done its hiking, through two days of soaking rain and returned singing joyously (whereby they acquired great merit with the C. O.), I was graciously invited to join the dentists and vets in their turn. It was carefully explained to me that this was merely a practice march, not in any sense to be considered an endurance test. Unfortunately nobody had thought to inform the sun on this latter point: Old Sol came forth and warmed up those white-gray roads to a temperature of 105. What it was in the shade I don't know, and it makes the less difference as there wasn't any shade, anyhow. Yet the "dents" and the "vets," fresh from the cool of stables and the ease of offices, "hit it up" along the hot Georgia highways as if that had been their custom all their lives. When the halt for camp was called they pitched their tents like veterans, cooked their own supper over their own trench, cleaned their own mess tins, and had enough energy left over to organize a singsong and several sprightly boxing matches. No man goes out of Camp Greenleaf without at least one thorough practical lesson in the art and practice of the open road.

Just a word about these dentists and veterinaries. There isn't much glamour about their war prospects. Their chance of getting to the fighting front is practically nil (though, to be sure, you never can tell in a war where the greatest of battles was saved by a scratched-up force of Chinese coolies, American pick-and-shovelers, and all the accumulated odds and ends that are caught up in a retreat). But Uncle Sam's teeth have got to be kept sound and sharp against the time that he is ready to take a bite out of the kaiser, and Uncle Sam's horses and mules have got to be kept in prime condition for their duties. So when the call came the dentists and the veterinaries answered "Ready" as promptly as the physicians; and, like the latter, these volunteers are the pick of their respective professions. Nor is there one iota less of war enthusiasm in them than in the M.D.'s. The particular pride and joy of the dentists is a complete dental parlor on wheels, lustrous and lovely as a circus wagon, thrilling to the imagination as a chamber of horrors, equipped with every device of torture down to the last minute of scientific progress, and manned by three dentists and two assistants. Presently every division will be attended, when it goes to the front, by at least one of these vehicles.

THE SIKES

All play and no work will make even doc a dull boy. Hence amusements are systematically arranged for him. Once in so often there are lectures on general war topics of interest, and the men gather, by order, for frequent singsongs. But it is at the occasional vaudeville performances that the local talent chiefly shines. The camp has a capital band and orchestra—though how they find the time for practice is a mystery—and this forms the basis for the "shows." As for the rest, in music, acrobatics, and specialties, the entertainment that I attended was up to the level of top-notch professional vaudeville. It ought to have been. Nearly every man on the program was a "headliner on the Big Time" before he got into the war.

The last number, alone, was purely amateur. The little stage filled to overflowing with young huskies in the uniform of privates and noncoms, a full company of them, while their leader took his place in the orchestra. He waved his arms esoterically, and the whole outfit burst, full-throated, into song. I have heard more delicately modulated and more technically expert singing, but never before anything to equal that chorus in verve and swing.

"Where did they raise the glee club?" I asked my neighbor.

"That isn't a glee club," he answered. "Those are the Sikes, the whole dam-famly."

Thus I had my first view, though not my first hearing, of that most extraordinary of military organizations, the company of psychologists. Of these enlisted men all but one are college graduates. More than 50 per cent. are college professors. They look like longshoremen, and they sing together like the morning stars! When they first arrived nobody (except perhaps the C. O., and his plans had not yet matured) knew exactly what a psychologist was for, in a military camp, anyway. They didn't know themselves. So they put their heads together and decided that, in lieu of specific information, it was their business to show the rest of the outfit what a lot of fun soldiering at $30 a month is when you go at it the right way: to take every job that came along, hard or easy, clean or dirty, and put it through with a grin; and everlastingly to make a cheerful noise about it. So, when you see a crowd of men with more than normal spring and grip to them, or hear a concerted or joyous noise anywhere about the premises, its a fair bet that the Sikes are guilty. Curiously enough, now that a department of camp morale has been substituted, the Sikes descover that the very thing which they have been doing at a venture is part of what they will be expected to do in the new activity. But they were bound to do it, anyway. It was the revulsion from the academic spirit. If you can picture a red pepper with a smile on its face, you'll have the measure of the Sike.

GAME TO THE END

Theirs is only the more expressive and ebullient form of the spirit which animates the entire camp. It is difficult to set forth this spirit and be at once adequate and temperate about it. If I had to select the one quality which chiefly characterizes doc in uniform, I think I should name gameness. Fuse with his determination and enthusiasm a certain healthy humility, born of the necessity of learning things from the bottom up, a prevailing readiness to help the man a little newer than oneself, and a complete sense of democracy, and you get an esprit de corps such as one would not believe possible in an organization so new and so constantly renewing.

STATE NEWS ITEMS

MARRIED

Dr. Walter Raymond Krauss, Farview, and Miss Ella Scofield Waldeck, in Philadelphia, October 2.

Dr. William E. Parke, Philadelphia, and Miss Grace Woods, Lancaster, November 12.

Dr. Paul M. Allis, Lewistown, and Miss Mary Beaver Thompson, Milroy, November 18.

DIED

Dr. Theophilus Radcliffe Van Kirk (Jefferson Med. Coll., '64) in McKeesport, October 26, aged 78.

Dr. Samuel Gavronsky (Univ. of Maryland, Baltimore, '18) in Harrisburg, October 4, from influenza.

Dr. Edward J. Murray (Baltimore Med. Coll., '10) in Throop, October 9, aged 33.

Dr. Abraham James Gordon (Jefferson Med. Coll., '12) in Philadelphia, October 6, from influenza, aged 29.

Dr. Carl Stoepler (Medico-Chirurgical Coll., '12) in Philadelphia, October 9, aged 36.

Dr. William Harris Corson, Jr. (Hahnemann Med. Coll., Philadelphia, '09), in Collegeville, October 9, from pneumonia following influenza, aged 34.

Dr. James F. Folz (Medico-Chirurgical Coll., '97) in Philadelphia, October 10, from pneumonia, aged 45.

Dr. George Lewis Smith (Univ. of Pennsylvania, '97) in Philadelphia, October 10, from pneumonia following influenza, aged 47.

Dr. Work A. Streeter (Hahnemann Med. Coll., Philadelphia, '16) in Harrisburg, October 14, from pneumonia, aged 28.

Dr. Samuel C. Blair (Univ. of Pennsylvania, '78) in Philadelphia, October 9, from heart disease, aged 64.

Dr. Abram B. Patton (Jefferson Med. Coll., '77) in Waynesburg, October 9, from cerebral hemorrhage, aged 67.

Dr. Robert J. Cunniff (Maryland Med. Coll., Baltimore, '09) in Philadelphia, October 7, from pneumonia, aged 37.

Dr. James Mackay Montgomery (Jefferson Med. Coll., '97) in Philadelphia, October 7, from influenza, aged 55.

Dr. Frederick Oswin Waage (Univ. of Pennsylvania, '04) of Philadelphia, at Fort Bliss, Texas, October 31, from heart disease, aged 41.

Dr. James Watt Keen (Medico-Chirurgical Coll., '97) in Philadelphia, October 23, from influenza, aged 56.

Dr. Frank H. Weidemann (Medico-Chirurgical Coll., '11) in Connellsville, October 24, from influenza, aged 40.

Dr. George Willard Lent (Jefferson Med. Coll., '91) in Oxford, October 18, from pneumonia following influenza, aged 57.

Dr. William James McKnight (Jefferson Med. Coll., '84) in Brookville, October 12, aged 82.

Dr. Henry S. Lindley (Jefferson Med. Coll., '66) in Wilkinsburg, October 10, from heart disease, aged 80.

Dr. Horace David Hermany (Jefferson Med. Coll., '92) in Mahanoy City, October 21, from pneumonia following influenza, aged 53.

Dr. John C. McClenathan (Jefferson Med. Coll. '81) in Connellsville, October 26, aged 66.

Dr. John Gabriel Long (Johns Hopkins Univ., Baltimore, '16) in Lancaster, October 24, from pneumonia, aged 27.

Dr. Isaac Norris (Univ. of Pennsylvania, '55) of Philadelphia, in Florence, Italy, October 22, aged 85.

Dr. Robert Harrison Murdock (Hahnemann Med. Coll., Philadelphia, '13) was recently killed in action in France, aged 28.

Dr. Walter L. O'Hagan (Univ. of Pittsburgh, '07) in Pittsburgh, October 31, from pneumonia following influenza, aged 36.

Dr. Vishwas Ramual Karmarkar (Univ. of Pennsylvania, '18) in Philadelphia, October 10, from pneumonia following influenza, aged 27.

Dr. Albert Beilstein, Jr. (Univ. of Louisville, Ky., '08) in Northampton, October 27, aged 32.

Dr. Zygmond Anthony Oborski (George Washington, Univ., Washington, D. C., '17) in Wilkes-Barre, November 1, from pneumonia, aged 24.

BORN

To Dr. and Mrs. Charles C. Biedert, Philadelphia, recently, a daughter.

ITEM

Pay Your 1919 County Society Dues.

The Elwood City Hospital, August 12, dedicated its new home which cost upward of $35,000.

Major John W. H. Pollard, U. S. M. C., has been appointed attending surgeon of the Army for the city of Philadelphia.

Dr. Isaac Norris, Philadelphia (University of Pennsylvania, 1852), died at Florence, Italy, October 22, after a short illness, aged 84.

Captain Karl G. VanSickle, only son of Dr. and Mrs. Frederick L. VanSickle, Olyphant, was killed at Martincourt, France, September 9.

Dr. Glenn M. Pierce, McKeesport, who has been confined to his bed for four weeks with influenza and pneumonia, is reported to be convalescent.

Industrial Casualties.—Industrial accidents killed 2,893 workers and injured 155,735 others in Pennsylvania during the first ten months of the year.

Dr. H. W. Albertson, Scranton, while making a professional call on November 2, fell and dislocated his right ankle and fractured the internal malleolus.

The Mid-Valley Emergency Hospital, Olyphant, was opened to receive patients, October 17. Dr. Frederick L. VanSickle was in charge of the institution.

Major Raymond G. Hussey delivered the Gross Lecture before the Pathological Society of Philadelphia, November 14, his subject being "Army Medical Laboratory Work in France."

Dr. Annie E. Freese, Philadelphia, has been made bacteriologist to Raleigh and Wake Counties, N. C., being concerned with extra cantonment sanitary work in connection with Camp Polk.

Dr. Mervyn Ross Taylor, Philadelphia, has been appointed medical officer of Bell Telephone Company of Pennsylvania and associated companies, with offices in the company's new Parkway Building.

Lieut.-Col. Richard H. Harte, M. R. C., director of the Pennsylvania Base Hospital, Unit No. 10, one of the first American surgical organizations to arrive in France, has returned to his home in Philadelphia.

The Medical Society of Franklin County will celebrate its golden anniversary of the reorganized society on Jan. 21, 1919, the meeting of the society when it was organized having been Tuesday, Jan. 19, 1869.

The Aid Association of the Philadelphia County Medical Society, according to the report of the treasurer for the fiscal year ended June 30, 1918, has a total invested fund, including the Willard and Walker memorial funds, of $54,351.51.

Jefferson Students Drop Barracks.—Acting under permission from the authorities of the War Department, Jefferson Medical College will abandon the barracks program and permit the students to lodge at their fraternity houses and dwellings.

The Presbyterian Hospital, Philadelphia, facing a deficit of many thousands of dollars for this year as a result of war conditions, has issued an appeal for more funds. All remittances of money should be sent to the Fidelity Trust Company, 325 Chestnut Street.

Major Theodore LeBoutillier, Cynwyd, has recently been promoted to the rank of lieutenant-colonel of the Medical Corps. He is serving with the American Expeditionary Force in France where he is chief of medical service in Base Hospital No. 57.

Dr. William McKenzie, Conshohocken, presented a $100 Liberty Bond with coupons attached to the Montgomery County Medical Society at its meeting on November 6, the same to be used as a nucleus of a permanent fund for a new home for the society.

State Hospital at Selinsgrove.—A new $1,000,000 state hospital will be erected in Selinsgrove in the spring. The state commission, of which Dr. Charles S. Aitkens is chairman, has decided on the immediate purchase of lands held under option for this purpose.

Lieut.-Col. James Reid Martin, M. R. C., with the One Hundred and Ninth Infantry Medical Corps, and a former chief resident physician of Jefferson Hospital, Philadelphia, was severely burned about the eyes by mustard gas, September 9, during the defense at Chateau Thierry.

Lieut. Ernest Hoover, M. C., who has been attached to the Three Hundred and Sixty-Ninth Infantry and stationed back of the front line since May 12, is reported to be the first Altoona physician wounded, his leg having been broken when his aid post was blown up by a shell.

Captain John J. Sweeney, a Bucks County physician with the Medical Corps at the front, in a letter reported having been knocked down and rolled around by shell explosion several times, and the previous day a machine gun bullet had passed through his sleeve just grazing his arm.

Conference on Influenza.—Medical men from the Atlantic Seaboard met November 29 at the Laboratory of Hygiene, University of Pennsylvania, Philadelphia, for a two-day conference, in which the whole subject of influenza, its causes, conditions, effects and preventives were discussed.

Col. Asher Miner, Commander of the One Hundred and Ninth Field Artillery, and a brother of Dr. Charles H. Miner, Wilkes-Barre, was wounded while leading the One Hundred and Ninth boys in the battle of Argonne Forest. His right foot having been wounded by a German shell it was found necessary to amputate it at the ankle.

Will Establish Science Hall.—The will of the late Dr. John C. McClenathan, Connellsville, showed the value of the estate to be approximately $160,000, of which the bulk is given to his widow, and at her death to be diverted to the trustees of Washington and Jefferson College to erect a building to be known as the McClenathan Hall of Science.

Dr. Alonzo E. Taylor, former professor at the University of Pennsylvania, on November 16 sailed for Europe to be Mr. Herbert Hoover's assistant in the task of rationing Germany. Dr. Taylor will represent both the food administration and the war trade and it is expected that he will go to the Balkans and take charge of the situation there.

The City Board of Health of Lancaster ordered the closing ban lifted October 30 at 8 o'clock on churches, schools, amusement houses, saloons and all public places. The action was a direct defiance of an order issued by Health Commissioner Royer that, on account of the influenza epidemic, nothing should be opened before the following week.

Work of the Pennsylvania Hospital Unit.—The Pennsylvania Base Hospital, Unit No 10, organized in Philadelphia as soon as the United States entered the war, and sailed overseas, May 18, 1917, with a personnel of 265 physicians, nurses, attendants and orderlies, has been stationed at Traporte and has treated 78,000 wounded men with a mortality of only 300.

Lieut. Andrew Knox, M. R. C., U. S. Army, has been awarded the military cross for attending wounded under heavy machine gun and artillery fire, during the taking of the city of Lille. Lieutenant Knox was attached to the One Hundred and Fifteenth London Regiment, civil service rifle British Expeditionary Forces, although he was a member of the American Army.

Dr. Cornelius T. McCarthy, first lieutenant, Medical Corps, attached to the British army, is recovering in London, England, from epidemic influenza, contracted while taking charge of the base hospital in France. He was the first American physician to be honored with the British military cross and has been cited twice by that government; the second time he received a bar to be attached to the cross.

Medical Advisory Boards Examined 67,520 Draftees.—A report issued November 29 by Major W. G. Murdock, State Draft Administrator, shows that medical boards in Pennsylvania examined 67,520, many of whom were given suggestions and treatment that enabled them to become soldiers. The figures were taken from reports submitted by each of the more than fifty boards. Of this number 4,926 were of the September 12 registration, being examined after October 1.

The Hahnemann Hospital, Philadelphia, having been taken over by the government, has been made a central receiving and examining station for medical student applicants who desire to go to the officers' training camps. Col. John A. Lockwood is in charge of the work at the hospital, which is to be devoted entirely to obtaining officers for the Medical Corps, although those selecting infantry, machine gun or artillery will be examined and, if qualified, sent to camps devoted to those branches.

Captain George E. McGinnis, One Hundred and Tenth Ambulance Company, One Hundred and Third Sanitary Train of Clarendon, has been awarded the distinguished service cross. Captain McGinnis, on "The night of August 9, with complete disregard of his personal safety, made a reconnaissance under fire and located a line of evacuation for ambulances from Fismette, and on the morning of August 10, under shell fire, personally repaired the bridge between Fismes and Fismette, thereby making possible the evacuation of twenty-eight wounded men."

The Lackawanna County Medical Society celebrated its fortieth anniversary on Tuesday evening, November 19, with the following program: "Organization," Dr. L. H. Gibbs; "Disadvantages of the Physician Forty Years Ago," Dr. S. D. Davis; "History of the Old Members," Dr. J. L. Rea; "Medicine, Then and Now," Dr. Morgan J. Williams; "Reminiscences," Dr. G. Edgar Dean. At the present time Drs. Gibbs and Davis are the only two living members of that first meeting of the organization, and their talks were very interesting. The program was followed by a luncheon.

Epidemic Orphans to Be Cared for.—A preliminary conference of representatives of various aid organizations including the Emergency Aid Committee, the National Congress of Mothers, the Division of Child Hygiene, Department of Public Works, the Social Service Department, Philadelphia General Hospital, and the Children's Aid Society, met in the office of Director Krusen to plan for the care of children made orphans by the death of their parents during the recent epidemic of influenza. It was decided to make an appeal to the public for subscriptions for a fund of $50,000 for their care and maintenance.

Eye Doctor Guilty Under Trade Act.—The first prosecutions under an act of assembly approved in June, 1917, resulted in the conviction in the municipal court of Michael L. Levitt on charges of conducting a free eye clinic under a fictitious name. Sentence was suspended, pending the disposition of a motion for a new trial. The act requires a person conducting a business under any other name than his own to register the trade name as well as his own. The arrests were made after an investigation by District Attorney Rottan. It was explained that under the guise of free eye clinics certain firms obtained patients to have their eyes examined free, and when glasses were ordered charging exorbitant prices. In Levitt's case it was shown he had conducted the Pennsylvania Free Eye Clinic at 733 Walnut Street as sole proprietor. He did not register his trade name, it was testified, until April, 1917, nearly a year after the passage of the act.

The Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about $250, will be made on July 14, 1919, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be on any subject in medicine, but cannot have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English Translation, and must be received by the secretary of the college on or before May 1, 1919. Each essay must be sent without signature, but must be plainly marked with the motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned on application within three months after the award. No Alvarenga Prize for 1918 was awarded.

GENERAL NEWS ITEMS

Hold Your Liberty Bonds.

Influenza in Delaware.—During the five weeks ending with October, there were 1,223 deaths from influenza in Delaware.

The American Public Health Association held its annual meeting in Chicago, December 9 to 12. The program was designed to bring out all available information concerning the management of epidemic influenza, though other aspects of public health were not neglected.

No More Physicians to Be Commissioned.—The War Department, on November 11, discontinued the commissioning of physicians in the Medical Corps, and no further consideration will be given applications for a commission in the Medical Corps until further notice.

Dr. Oscar Dowling, Shreveport, La., president of the state board of health, has been elected adjunct professor to take charge of the course of hygiene in the school of medicine of Tulane University, and to arrange the course of instruction for the students at Camp Martin.

The Buffalo Medical Journal, which was the third oldest medical journal in America, having been founded seventy-four years ago by Dr. Austin Flint, and published regularly ever since, has been purchased by and will be incorporated into the *Medical Review of Reviews.*

Council on Pharmacy and Chemistry.—During November the following articles were accepted for inclusion with New and Nonofficial Remedies: Rabies Vaccine (Harris), National Pathological Laboratories; Creosote Carbonate, S. and G., Guaiacol Carbonate, S. and G., Schering and Glatz.

Night Clinics at Hopkins.—Cooperating with medical officials of the United States government, night clinics have been inaugurated at the Johns Hopkins Hospital, Baltimore, Md., in the interest of social diseases. Tuesday and Thursday are set aside for women, and Wednesday and Friday for men.

New Health Board Appointments for Louisiana.—Governor Pleasant, October 29, announced the following appointments: as member and president of the state board of health, Dr. Oscar Dowling, Shreveport, and as members of the state board of health, Dr. Theophilus T. Tarlton, Grand Coteau, and Dr. Thomas A. Roy, Mansura, all reappointed.

One Hundred Thousand Cases of Influenza Bring Ban in Porto Rico.—Governor Yagar, acting on the report of the Porto Rican commissioner of health, November 30, ordered all schools, churches and theaters to close, and placed a ban on public gatherings because of the influenza epidemic. It is estimated that there are 100,000 cases of influenza in the island.

Scrap Platinum Not Desired.—The War Industries Board has authorized the following: "As the government demand for platinum in the making of explosives, etc., has been tremendously decreased by the curtailed war program, it is requested that no further scrap platinum be tendered to the government through the channels indicated in our communication of Sept. 17, 1918."

Ravages of the Influenza Epidemic.—It is claimed that the deaths in the present influenza epidemic in forty-six American cities having a combined population of only about one-fifth of the total population of the United States have been considerably more than the total deaths in the American Expeditionary Forces from the time the first contingent landed in France until the cessation of hostilities.

Child Labor Day, which will be observed throughout the country on Saturday, January 25, in synagogues, on Sunday, January 26, in the churches, and in the schools on the following Monday, these dates having been assigned by the National Child Labor Committee, will be an occasion for reviewing the work of Children's Year, including the baby-saving campaign, a crusade against wartime child labor and a nation-wide back-to-school drive.

Upholds Ordinance Regarding Closing. — The Supreme Court of California has upheld the validity of an ordinance of the city of Los Angeles prohibiting public gatherings during the epidemic of influenza. The court denied a writ of habeas corpus in the case of five citizens of Los Angeles who, in defiance of the prohibiting ordinance, were arrested for holding a service in the Christian science church. The constitutionality of the health ordinance was attacked.

Preparedness League of American Dentists.—More than 650,000 free dental operations were performed by members of the Preparedness League of American Dentists prior to November 1. All this work was done on men drafted for military service, but who were, in many instances, dentally unfit for military duty. Members of the league are located in every state in the Union and in many instances have made individually several hundred men dentally fit for service.

Health Survey of New Orleans, La.—Acting with the city board of health and with the approval and cooperation of the mayor of New Orleans, the Metropolitan Life Insurance Company is making a comprehensive health survey of that city. The inquiry is as to death rate, birth rate, necessity for sanitary reforms, infectious or contagious diseases, and school arrangements from a sanitary standpoint. The main object, of course, is a reduction in the death rate for the future, which may result from a scientific study of all the conditions under which the population now lives.

No Preparations for the Self-Treatment of Venereal Diseases will be sold in the twenty-nine retail stores of the company located on the Pacific Coast and in the Middle West, has been announced by the Owl Drug Company, Standard preparations, recognized by the profession, will be carried in the prescription rooms and sold only on orders from a physician. This innovation was decided on 'after the management gave due consideration to the report of the Surgeon-General of the U. S. Army showing an alarming prevalence of venereal diseases among the civilians who were examined preparatory to entering the Army.

To Study Health Insurance.—The American Hospital Association, at its convention in Atlantic City in September, directed the board of trustees to make a study of health insurance in its relation to the hospitals and dispensaries and to give such assistance as may be requested in the formulation of plans and of legislative bills. Dr. Thomas Howell, superintendent of the New York Hospital, chairman of the Committee on Social Insurance, said in his report that the medical profession should insist on participation, together with employers and employees, in the shaping and administering of health insurance laws now proposed in many states.

Lydia Pinkham's Vegetable Compound. — This widely advertised alcoholic nostrum, put out by the Lydia E. Pinkham Medicine Co. of Lynn, Mass., was reported by the government to contain 17.9 per cent. alcohol, and 0.56 grains of solids to each 100 c.c., with vegetable extractive material present. It was falsely and fraudulently claimed to be effective as a remedy for falling of the womb, leucorrhea, inflammation and ulceration of the womb, for curing diseases of women and for all female ailments and affections, diseases of the bladder, and effective as a cure for dysmenorrhea, uterine tumors, diseases of the ovaries, etc., and as a preventive of miscarriage, "when, in truth and in fact, it was not." The company was fined $50. (Notice of Judgment No. 4997.)

Hood's Sarsaparilla.—The C. I. Hood Co. of Lowell, Mass., was charged with misbranding "Hood's Compound Extract of Sarsaparilla." The federal chemists reported that the product was a mixture of alcohol (16.5 per cent.) and water, containing about 0.90 per cent. of potassium iodid, 5.5 per cent. of sugars, 6.5 per cent. of vegetable extractives, which bore indications of the presence of sarsaparilla, licorice and a laxative drug resembling senna. The preparation was sold under the claim that it was a remedy for "scrofula," eczema, "cancerous humors," "catarrh," rheumatism, "female weakness," consumption, dropsy, varicose veins and various other conditions. These claims were declared false and fraudulent, and the company was fined $50. (Notice of Judgment No. 4990.)

Honorary Memberships for Americans in Leading French Medical Society.—The Societe Medicale des Hôpitaux de Paris elected at a recent meeting, as corresponding members *honoris causa,* Dr. Alexander Lambert, the president-elect of the American Medical Association, director of the medical service of the American Red Cross in France; Col. James T. Case, editor of the *American Journal of Radiology* and chief of the radiologic service of the American Army in France; Prof. William S. Thayer of Johns Hopkins, consultant to the American Expeditionary Force; Prof. Morton Prince of Tufts College, New York; Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research, and Prof. Beverly Robinson of the University and of Bellevue Hospital in New York, a former intern of the Paris hospital.

Polyclinic Hospital Transferred to Columbia University.—At the meeting of the trustees of Columbia University, held on November 4, it was announced that the trustees of the New York Polyclinic Hospital had proposed to transfer the property of that institution to Columbia University, "to be maintained and perpetuated for the public service and research in medicine and surgery." The trustees of Columbia University, in response to this offer, adopted resolutions receiving with grateful appreciation the proposal of the trustees of the Polyclinic Hospital and appointing a subcommittee to arrange the detailed terms and conditions of accepting the offer. The university will not be able to use the Polyclinic Hospital until after the conclusion of the war, since it is now in the possession of the government and administered as a military hospital.

DEATHS FROM INFLUENZA AND PNEUMONIA IN LARGE CITIES.—The following table is compiled from the Report of the Bureau of the Census for the week ending November 23, 1918.

	Total Deaths from Influenza	Total Deaths from Pneumonia
Baltimore	..	36
Birmingham	35	9
Boston	33	21
Buffalo	28	6
Chicago	146	105
Cincinnati	88	17
Cleveland	186	54
Los Angeles	176	20
Louisville	3	32
Memphis	5	13
Nashville	10	6
New Haven	17	3
New York	292	365
Philadelphia	50	53
Pittsburgh	208	192
Richmond	4	9
St. Louis	125	65
St. Paul	78	..
San Francisco	72	18

SOCIAL DISEASE RATE REDUCED IN THE U. S. ARMY.—A decided drop in the social disease rate in the American Army under the preventive measures of the War Department is noted in a statement issued by the Surgeon-General's Office. In 1910 the disease rate was 155 a thousand. In 1915 this had dropped to 83.6 a thousand. The annual rate in the American Expeditionary Force has varied from 20 to 40 a thousand. Many of these cases, according to the statement, were traceable to the French system of licensed houses of prostitution, which now have been placed "out of bounds" for United States troops. During the fifty-three weeks ending September 27 of this year there were reported 178,204 cases under treatment in the Army in this country. Approximately 85 per cent. of these cases were brought into the Army, while only 15 per cent. were acquired after the uniform was donned. The preventive program of the War Department includes social measures to diminish temptation, education of soldiers and civilians regarding the diseases, prophylactic measures against disease and medical care following infection. The War Department Commission on Training Camp Activities is cooperating in this work.

B. IODINE AND B. OLEUM IODINE.—The Council on Pharmacy and Chemistry, having made an exhaustive study of B. Iodine and B. Oleum Iodine adopted the following conclusions: "The referee in charge of the preparations submitted the above letter to the council with the following comments: The principal statements in the letter are essentially erroneous or misleading; mixtures or double salts of ammonium iodid and iodin were not discovered by Dr. Bohlander, and are nothing new. Watery solutions of iodin by means of an iodid have long been known and used in the form of Lugol's solution. There is no evidence that ammonium iodid is less irritating than potassium iodid. On the contrary, ammonium salts are generally more irritating than the corresponding potassium salts. B. Iodine is not compatible with alkaloids, but behaves essentially like Lugol's solution. The A. M. A. Chemical Laboratory reports that the new sample of B. Oleum Iodine contains only 1.2 per cent. of free iodin, instead of the claimed 5 per cent. It is therefore somewhat weaker than the iodin petrolatum prepared by the A. M. A. Chemical Laboratory (*Reports Council Pharm. and Chem.*, 1917, p. 88). However good Dr. Bohlander's intentions may be, the statements that he makes about his products are misleading or erroneous, and the products are ineligible for N. N. R."

BULLETIN EXCERPTS

BULLETIN, LANCASTER

NOVEMBER MEETING

We are not going into details of the last meeting but, without exception, it was the best meeting we have ever attended. There was every reason to expect a slim attendance, but notwithstanding that the men were very busy, and we might add tired, the idea of exchanging views and experiences on the influenza epidemic brought out all the live men in the city and county. From the time Dr. Hartman challenged the "one hundred per cent. cure" doctors until the final rap of the gavel, there was something doing every minute and those who stayed away missed a great deal.

HAVE WE KEPT THE FAITH?

In a comparatively short time, as time is reckoned, our soldier boys will be returning to their homes. Each community will give a fitting and proper demonstration to its boys, individually and collectively, when that great day arrives. Among those lads who heard the call were quite a few of our society members, heroes every one, deserving the best we have to offer. When they left we enthusiastically and patriotically pledged ourselves to conserve their practices and share the proceeds of their clientele. We have no reason to suspect that there is a man of us who violated this almost secred pledge. We trust there is none. Possibly in the volume of business we have all been called upon to do, some of us may have put off till a later day, a settlement with the absent physician. But would it not be wise to make a settlement now, before the boys get home?

We trust that every man among us will be able to look the physicians who offered their all straight in the eye, without any misgivings; conscious that we have done our duty as fittingly as the absentee did his.

It is easy, very easy, especially in the glow of patriotic fervor, to make a promise. But as time rolls on, as month is added to month, the promise or pledge becomes hazy. We are apt to forget, there is a possibility of our claiming what isn't ours, and this is what we must guard against.

Errors are human and we realize there will be errors that are absolutely excusable, crop up in the final settlement. These can be adjusted. Crookedness cannot be adjusted, however. It is a word that carries a great deal of weight in any community and it is a mighty hard thing to live down. If any person thinks he is playing a game of this nature that he can conceal, we would advise him to go slow. Soldiers, we believe, are not used to questioning things because they deal with real men, but once a slacker crops up, it is our opinion that they would go the limit in exposing and punishing him. We hope they will reserve this soldierly qualification for home use and at the same time we hope they will never have occasion to use it in this connection.

We made the pledge. Have we kept the faith?

LIEUT.-COL. THEODORE B. APPEL

Among those who left earliest to do their bit in crushing the Hun was Dr. Theodore B. Appel. He left with the rank of captain and was assigned to Fort Sill, where he mastered all that was known about gas, its use, methods of overcoming it and treatment. Assigned to Fort Oglethorpe, he was soon made major and, we have it, was and is an authority on gas treatment. Always a leader in local and state medical affairs, his unusual qualifications just couldn't be kept down in any circles, and it is not surprising that the lieutenant-colonel rank was given him. All his friends were pleased, but then that is just what we naturally expected, for one with his ability. Congratulations.

WEEKLY ROSTER, PHILADELPHIA

Report of the President of the Aid Association of the Philadelphia County Medical Society for the Year Ending June 30, 1918

The president desires herein to report on the work, progress and urgent needs of your Association. The routine work of your Board of Directors is set forth in the reports of their president and the standing and special committees through which their functions are performed; a chronological record of which is preserved in the minutes of their proceedings and are at all times open for your inspection. These minutes are of great interest, since they are a record of the philanthropic work of the Association, and convey to even the casual reader the noble spirit in which your benevolent designs are carried forward. During the past year the demands made on your benevolent fund has been so largely in excess of former years, owing to the disturbed condition of our general social structure by the war that the standing Committee on Benevolence of your Board of Directors has been unable to satisfy them. The conditions growing out of the war have fallen with marked severity on physicians and their families and it seems that we are only at the beginning of these extraordinary demands on your benevolence. It is, therefore, urgently incumbent on your Association to enter on some plan for increasing our income. Your president suggests that at least two methods are open. The first is through an increase of our membership in all its forms, and second by soliciting contributions from the charitable. The increase of membership is especially important for the reasons that it not only adds permanently to the annual income of the Association, but broadens its influence. The financial conditions of the Association as set forth in the treasurer's report should be carefully studied by every member and widely distributed to personal friends.

Respectfully submitted,

Samuel D. Risley, M.D., President.

WEEKLY BULLETIN, ALLEGHENY

Reflections

Now that the dismemberment of the would-be world power is rapidly progressing and we enter the era of world peace, it is fitting that we recount with a pardonable pride what the medical profession of America has done in bringing it about. To say that the greatness of our victory is due only to the magnificent American spirit and the Yankee psychology that never can be beaten is dismissing without due consideration the factors which made and kept this spirit alive. We are thrilled when we read of the exploits of our men who, as Fosdick puts it, "stepping aside they let the magnificent French troops, tired and broken after their admirable resistance, file back down the road. Then, putting every man a red poppy in his helmet, they swung up the hill into battle, where they whipped the Prussian guard. . . . These young, eager, vigorous boys, like strapping Samsons seem to be superhuman things with the apparent idea that such things are to be expected as a matter of common course in battle." I quote these words, for a true American must have his fill of pride when he thinks of his Civilian Army which equaled and outdid experienced soldiers who had fought for four years.

When we say "Civilian Army" it is true in every sense of the word, and the making of this Army depended on a most wonderful machinery, the very governing power of which was the physician who decided the physical and mental fitness of the material which was to be had. Thousands of medical men throughout the United States gave hours of their time, using the highest type of training, to eliminate all those who presented any defect whatsoever which might mar the structure of this great Army. The speed and completeness of their work speaks for itself. The thoroughness of their investigation, coupled with the careful checking methods of the medical advisory boards, saved our government billions of dollars, and then, on the field and in a directing capacity, medical men from everywhere rushed to the colors, so that our service had medical attention, the like of which no army has ever known.

From civilian life to a commanding officers' position in a few months was unheard of, but the former secretary and assistant secretary of our society equipped and sent across ten ambulance trains in their first year of service. Allegheny County has reason to be proud of every man she has in the service, and we mention the achievement of the above officers as only an example.

But what of the glory of these achievements and what of the energy expended by our men on draft and advisory boards. The man who purchased $1,000 worth of War Savings Stamps is a member of the Pershing Limit Club. He wears an ornate button apprising the public of the fact that he has loaned the government as much money as the government will allow, and that he will receive from the safest investment he can make, the principal and interest on a given date. He has made no sacrifice whatsoever. He will be well paid for doing his honest duty to the nation. But the physician who, as we have said, gave his highest type of training for no compensation as a member of the medical advisory board and for a ridiculously small compensation as a member of a local board, has nothing to show for what he has done. We well know that he feels he did his duty and that within himself he is compensated for his efforts, and yet, one thrives but little on self-satisfaction. Our government should acknowledge the nation's debt to these men, for it has been a service which the wealth of our nation cannot repay, and like all really great things, its value will only be realized when history is written.

To those who assumed the duties of the men in the service and attended the civilian needs during these trying times, a great debt is due, and like unto the above, it will not be paid. This all resolves itself into the same old problem: How can the physician establish himself in our social system so that his sacrifices will receive just recognition from the public? It will not come through depending on sentiment, for, unfortunately, in our work, compensation is involved and the psychology of the sick and the well does not permit of justice being done; and so, a firm, strong medical organization is necessary to educate the public, and insist on the rights of our self-sacrificing profession and to establish what is best and just for the greatest of nations.

COMMUNICATIONS

REJECTIONS OF PENNSYLVANIA REGISTRANTS AT CAMP

Philadelphia, Nov. 6, 1918.

To the Editor:—The Provost Marshal-General is very anxious that every Local Board in the United States should reduce to an absolute minimum the causes of rejections at camp. This can be done only by more thorough physical examinations, on the part of the medical examiners of the local and medical advisory boards, and qualifying the registrant for military service, based on the physical findings and the proper application thereto of Form 75, second edition, Standard of Physical Examination.

The Medical Division of the Provost Marshal-General's Office, of which Col. F. R. Keefer, M. C., U. S. Army, is chief, has made a statistical study of the causes of rejections at camp, for the local boards of the State of Pennsylvania, for the period extending from Feb. 10, 1918, to Oct. 7, 1918. This report was made as of Oct. 22, 1918. I was in Washington, in regard to this matter, and asked permission to have this report sent for publication in the PENNSYLVANIA MEDICAL JOURNAL, thinking it would be of interest to the profession of the state. Permission was granted and herewith find the report:

For the period from Feb. 10, 1918, to Oct. 7, 1918.
Total number inducted, 153,825.
Accepted, 138,786.
Rejected, 15,039.
Per cent. rejected for the state, 9.78 per cent.
National average of rejection, 7.6 per cent.
Percentage of rejections for obvious defects, 65.5 per cent.
Percentage of rejections for other defects, 35.5 per cent.
Obvious defects: Total, 9,889; 65.5 per cent.

	Number	Per Cent.
1. Bones:		
Amputation	155	1.0
Deformity	260	1.7
Disease	155	1.0
Fracture	366	2.4
2. Joints:		
Ankylosis	305	2.0
Disease	173	1.1
Dislocation	57	4.0
3. Spine	221	1.5
4. Tuberculosis other than lungs	18	1.0
5. Pes cavus	189	1.3
6. Pes planus	533	3.5
7. Hallux valgus	112	.7
8. Ear:		
Deafness	38	.3
Otitis media purulent	1,087	7.2
9. Eyes:		
Vision	1,225	8.1
Nystagmus	10	.1
Trachoma	36	.2
10. Teeth, deficient	1,031	6.9
11. Height	202	1.3
12. Weight:		
Overweight	47	.3
Underweight	830	5.5
13. Chest measurements	6	.05
14. Varicose veins	198	1.3
15. Phlebitis	34	2.0
16. Mental deficiency	412	2.7
17. Mental and nervous disorders:		
Paralysis	104	.7
Stammering	63	.4
18. Skin	16	1.0
19. Pellagra	None	
20. Goiter	14	.1
21. Goiter with hyperthyroidism	13	.1
22. Hernia:		
Inguinal	935	6.2
Umbilical	113	.8
Not classified	337	2.2
23. Fistula	21	1.0
24. Prolapse with hemorrhoids	54	.4
25. Venereal diseases:		
Syphilis	111	.7
Gonorrhea	13	.1
Other	15	.1
26. Genito-urinary, nonvenereal:		
Hydrocele	34	.2
Varicocele	18	.1
Testis in canal	63	.4
Other	20	.1
27. Tachycardia, peristent	203	1.3
28. Alien enemy	43	.3

Other defects, 5,150; 34.5 per cent.

	Number	Per Cent.
1. Eye defects	214	1.4
2. Ear:		
Perforation of drum	3	
Other disease	1	
3. Respiratory system:		
Asthma	198	1.3
Chronic bronchitis	42	.3
Sinusitis	278	1.8
Pleurisy	24	.2
Tuberculosis	728	4.8
4. Heart and blood vessels:		
Disease of heart	1,455	9.7
Hypertension	102	.7
Other disease	10	.1
5. Hyperthyroidism	511	3.4
6. Nervous system:		
Epilepsy	75	.5
Neurasthenia	48	.3
Hysteria	34	.2
Psychoneurosis	361	2.4
7. Alcoholism	24	.2
8. Drug addict	70	.5
9. Diabetes	3	
10. Nephritis	7	
11. Digestive system	23	.2
12. Other defects	58	.4
13. Not stated	864	5.7
Dyspituitarism	17	.1

This record should be of interest in a general way, and you may hear remarks here and there as to its inaccuracies. I find several of the boards are not in accord with the statistics for their individual board, but the compilation here is as near accurate as it could be made under the circumstances, and in a general way well serves the purpose for which it was intended, to show the medical examiners of each board where each board is falling down on its examinations.

In publishing this record it will be necessary to give credit to the fact that it was issued by the Office of the Provost Marshal-General of the United States, Medical Division, of which Col. Frank R. Keefer, M. C., U. S. Army, is chief of the division.

FRANK C. HAMMOND, Major, M. C., U. S. Army,
Medical Aide to the Governor of Pennsylvania.

DR. DILLER'S CRITICISM

October 29, 1918.

To the Editor: In the October issue of THE JOURNAL appears a communication from Dr. Theodore Diller in which he proclaims that the diagnosis of "myotonia" made by me on a case reported in the July issue of THE JOURNAL "ought not to go unchallenged." The enlightenment Dr. Diller sheds on this case deserves comment. There are several points in the doctor's discussion which should not be overlooked.

Point 1. The case referred to was reported by the writer as one of "Myotonia Acquisita" (page 620, July issue of THE JOURNAL) and as "a type of myotonia" (p. 622). The doctor does not consider the important distinction.

Point 2. Dr. Diller quotes Dr. C. K. Mills as finding "difficulty in understanding a case of myotonia confined to one extremity," but he seems to mistake a comma for a period in Dr. Mills' statement. The sentence concludes thus: ". . . except on the basis of a topical representation of tone in the cerebrum." I cannot acquiesce in thus misinterpreting Dr. Mills' valuable discussion in connection with the "tonectic apparatus." Dr. Diller's omission makes a remarkable difference in one's conclusions as to diagnosis.

Point 3. There is no incompatibility between the symptoms presented in my case and the description of myotonia acquisita given by Oppenheim and by Bing. Dr. Diller finds that some of the symptoms are not typical of a classical Thompson's disease. I am discussing an *atypical* form of the disease recognized by the above authorities.

Point 4. I have searched in vain for the diagnosis Dr. Diller may be offering in this case. Outside his "Small wonder!" (at the patient experiencing some aching and fatigue); and his statement that "a much more reasonable" and a "simpler" view of the case would be that the patient's main symptoms were "due to" his pain and swelling, the doctor offers no attempt at explanation of the symptoms. It would seem worth while to consider what the pain and swelling are "due to."

C. C. Wholey.

4616 Bayard Street, Pittsburgh.

DONATION FROM SENIOR MILITARY MEDICAL ASSOCIATION

Philadelphia, Nov. 20, 1918.

Dr. Walter F. Donaldson, Secretary,
Medical Society of the State of Pennsylvania,
Jenkins Arcade, Pittsburgh.

Dear Dr. Donaldson:—After the organization of the Senior Military Medical Association, and its conversion into the Volunteer Medical Service Corps, there was left an unexpended balance of $49.51; this amount the president of the Corps, Dr. Edward P. Davis, has directed to be turned over to the Medical Society of the State of Pennsylvania, to partly meet the deficiency due to the remission of the *per capita* assessment of the physicians in service.

In complying with the above I am inclosing a check for this amount.

Very truly yours,
C. B. Longenecker, Sec.-Treas.,
S. M. M. Corps.

BOOKS RECEIVED

Books received are acknowledged in this column and such acknowledgement must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Transactions of the College of Physicians of Philadelphia Third Series. Volume 29. Philadelphia: Printed for the College, 1917.

Transactions of the New Hampshire Medical Society at the One Hundred and Twenty-Seventh Anniversary held at Concord, Wednesday and Thursday, May 15-16, 1918. Manchester, N. H.: The John H. Clarke Co., 1918.

Abstracts of War Surgery. An abstract of the war literature of general surgery that has been published since the declaration of war in 1914. Prepared by the Division of Surgery, Surgeon-General's Office. St. Louis: C. V. Mosby Company, 1918. Price, $4.00.

The Unsound Mind and the Law. A Presentation of Forensic Psychiatry. By George W. Jacoby, M.D., Author of "Child Training as an Exact Science," Fellow of the New York Academy of Medicine, Member of the American Medical Association, American Neurological Association, and New York Neurological Society, Consulting Neurologist to the Hospital for Nervous Diseases, The German Hospital, the Beth Israel Hospital, The Red Cross Hospital, and the Infirmary for Women and Children in the City of New York. 8vo, cloth, 438 pages. Funk and Wagnalls Company, New York and London: 1918. Price, $3.00 net; by mail, $3.16.

Clinical Medicine for Nurses. By Paul H. Ringer, A.B., M.D., Member of the Staff of the Asheville Hospital, Asheville, N. C., and of Biltmore Hospital, Biltmore, N. C. Illustrated. Philadelphia: F. A. Davis Company. 1918. Price, $2.00 net.

BOOK REVIEW

MEDICAL CLINICS OF NORTH AMERICA. Vol. II, No. 1. (The New York Number, July, 1918.) Octavo of 311 pages, 57 illustrations. Philadelphia and London: W. B. Saunders Company, 1918. Published bi-monthly. Price per year: Paper, $10.00; cloth, $14.00.

This volume contains fifteen articles of timely interest by a representative group of New York medical men, as follows: A clinical lecture on hyperpiesis by Dr. Frank S. Meara; a clinic devoted to subacute streptococcus endocarditis by Dr. E. Libman; a clinic on disease of the heart and circulation by Dr. Thomas F. Reilly; a clinic dealing with aneurysm of the thoracic aorta by Dr. R. G. Snyder; a consideration of immunization against diphtheria by Dr. William H. Park; a clinic on nontuberculous pulmonary infection by Dr. Walter L. Niles; a discussion of pulmonary tuberculosis by Dr. Charles B. Slade; a clinic on progressive lenticular degeneration by Dr. Frederick Tilney; a clinic on epidemic meningitis by Dr. Josephine B. Neal; a clinic on the primary myopathies by Dr. S. Philip Goodhart; a clinic on the relation of internal disturbances to dermatologic conditions by Dr. Walter J. Heimann; a discussion of the cutaneous manifestations of acute rheumatic fever in childhood by Dr. Murray H. Bass; a discussion of acetone-body acidosis in children by Dr. Oscar M. Schloss; a clinic on obstructive jaundice by Dr. Burrill B. Crohn; a clinic on the hemorhagic diseases by Dr. Reuben Ottenberg. E.

SOCIETIES

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Special Meeting, November 5, at 8:30 P. M., Dr.
Thomas R. Neilson, Acting President, in
the Chair

The Surgical Treatment of Wounds of the Lung. Major Pierre Duval, Paris: In the last two years the treatment of lung wounds in the French Army has changed from the medical to the surgical. This surgical treatment consists in excising the lung wound and treating it as one would a wound in any other part of the body. The chest is opened widely enough to take the lung out; it is examined on all its surfaces; hemorrhage is checked, the lung replaced and the chest wall sutured completely. In the first half of the war in 300 cases of lung wounds treated medically there was a mortality of from 25 to 28 per cent. By the surgical treatment in cases brought in with severe hemorrhage there were good results in from 65 to 68 per cent. of all cases. By the operative treatment of war wounds of the lung the mortality has fallen from 28 to 9 per cent. The war experience in lung wounds has opened a broad field for lung surgery in time of peace.

GUNSHOT WOUNDS OF THE CHEST. Col. George E. Gask, London: A very great change has come over the whole of our treatment of gunshot wounds. At the beginning of the war we were horrified to find that every single wound was suppurating. Our efforts to get clean wounds were futile and it seemed as if we had returned to the pre-Listerian period. We now realize that the essential treatment of all gunshot wounds is the early mechanical cleansing by open operation under aseptic precautions before the organism introduced by the missile has a chance to multiply and invade the tissues. A broad line of distinction is drawn between contamination and infection. In the majority of cases operation is done within 12 or 15 hours of the time of injury. For the first two years of the war we were afraid to do any sort of operation on the chest. The men were put to bed, given morphin if in pain, a remedy for cough if there was cough, and we hoped they would get well. Quite a large number did, but a larger number died, and a large number became extremely septic, had empyemata with pus discharge. The only surgery that was done was the removal of an inch or two of rib and a tube put in.

Throughout the time of the Somme fighting we had not time to study these chest cases for the number of urgent operable cases was enormous. Gradually we found that we could divide the thoracic cases into two categories: those dying on the battlefield or within a few hours, and those dying in from forty-eight hours to two or three weeks. Of the former class death was the result of hemorrhage; of the latter, usually death resulted from sepsis. Our next step was to find the channel of infection, and the great principle we arrived at was to effect an early mechanical cleansing of the wound of the chest wall and of the wound in the lung. Our method was to put the patient to bed, the chest being examined for complicating wounds, hemothorax, pneumothorax, movements of the diaphragm, position of the heart and for any indication of respiratory distress. Roentgen-ray examination was used whenever possible. Determining that the chest wall must be excised, we cut down on the rib or scapula, finding it necessary often to excise ragged splinters with a pair of scissors. Very often we found bleeding in the costal artery which we first thought came from the lung. This was tied. Inserting a finger, there could be felt splinters of bone in the cavity or sticking into the lung. Such cases with the air sucking in and out were uniformly fatal. We later were led to enlarge the wound of entrance that the hand might enter the thoracic cavity and remove foreign bodies. Rather to our astonishment the men stood these operations much better than we anticipated. There was banished forever the principle which I was taught to believe, that handling of the wounded lung would cause renewed bleeding.

On opening the chest the blood is removed and search is made for foreign bodies, the lung is examined for foreign bodies as would be a coil of intestine. If the foreign body has penetrated into the lung a fresh incision may be required. This can be made without fear except near the hilus, and any bleeding is easily controlled by deep catgut sutures. The principle that a wound must be cleansed must be applied in wounds of the lungs as in any of the soft parts. As evidence of the fact that the lung is able to take care of many organisms without abscess formation, gas gangrene of the lung is unknown in spite of the many cases in which foreign bodies are left in the lung. It is, therefore, a matter of practice to close every wound in the lung. I fancy that restoration of function is accomplished much more quickly when the lung is at once put into as nearly normal conditions as possible. Cleansing of the pleural cavity is of the utmost importance. The final step in the operation is closure of the chest and this is done as in closure of the abdomen when possible, muscle to muscle, and skin to skin. An anesthetic may be given with safety if there is fair function on the side of the chest not opened. I think I may be right in saying that the type of anesthetic, so long as it is skilfully given is not of very great importance. In the after treatment the chest should be aspirated at regular intervals to determine that no infection is present.

I would not give the impression that every chest wound should be operated on. Probably not more than 30 per cent. of penetrating wounds of the chest should be subjected to operation. In our experience the indications for early operation are (1) such wounds of the soft parts as would require operation in any other part of the body; (2) bleeding from that wound; intracostal hemorrhage; (3) fractured ribs; (4) cases with large foreign bodies lodged in the lung; (5) cases of pneumothorax in which air is admitted through the wound. In hemothorax without extensive wounds, splintered ribs, or retained bodies, there is at present a diversity of opinion. While we are inclined to operation our practice is not to operate unless there is sign of sepsis. Theoretically there should be no such state as an infected hemothorax, but practically there are a considerable number of such cases. We have no means of telling which cases will become septic. I believe that closure of the chest helps to expand the lung, for every movement aids in this expansion as soon as the air is absorbed. If pus is formed a stitch may be easily removed and a tube inserted. The surgical treatment of wounds of the chest is now being practiced in almost every hospital at the front line, and we have had the supreme pleasure of seeing many patients restored to health who would have died under the former treatment.

THE TREATMENT OF CHEST WOUNDS BY ARTIFICIAL PNEUMOTHORAX. Professor Raffaele Bastianelli, Italy: In the Italian Army the treatment of chest wounds has followed almost the same steps as in the other armies. Early in the summer of 1916 we saw the necessity of an active intervention, and we came to the conclusion that, except for a few puncture-like wounds, it was necessary to excise the soft parts and to remove the bone fragments, treating the chest wall in the same way as we had learned to treat wounds in any other part of the body, because we felt sure that much of the pleural infection causing empyema, septicemia and death was due to an infection coming from the outside. The chest wall was closed air-tight and without drainage, and generally this operation was performed under local anesthesia.

It was through the untiring interest of one of my associates, Major Morelli, a pupil of Forlanini of Pavia, that the artificial pneumothorax was introduced into the Italian Army, leaving the complete chest operation for the treatment of exceptional cases.

Some lung wounds are such that air is not admitted to the pleural cavity from the outside, neither can it escape, so that the hemothorax and the pneumothorax are in a closed thorax; and when here there are no adhesions generally we see that the hemorrhage is either fatal; or it is profuse, or moderate; or does not show at the beginning, but appears and is prolonged. This prolonged hemorrhage is due to the fact that inside the closed thorax there is the negative pressure of the lung which works like a suction cup on the lung wound. We have then two very bad conditions, a movement of the wounded organ, and a suction on the wound itself. In many such cases of closed thorax wound Nature may effect a perfect, or an imperfect cure. The mechanism of the cure by Nature is through the pressure exercised on the lung wound by the blood in the pleural cavity, by the air, or by both together. With 1,500 or 2,000 c.c. of blood inside the pleural cavity the lung may still expand. The lung collapsed and immovable presents a favorable condition for healing.

We have learned also that blood in the pleural cavity is dangerous not only as a medium for microorganisms but also in the formation of fibrous deposits which obliterate the sinuses of the pleura and produce adherences; also its presence does not favor expansion of the other side of the chest. Instead, if the pleural cavity is filled with air, the lung is compressed, hemorrhage, infection, and adhesions are prevented more easily, and even the big missile inside the lung sometimes remains without complication if immobility is maintained. With blood in the pleural cavity the lung is usually only partially retracted and we see bad functional consequences. If the lung is surrounded completely by air, adhesions do not occur and when the lung begins to expand the pleura will not contract adhesions so quickly that the expansion is prevented. Adhesions may occur later, but then the lung has already expanded and the function is good. For these reasons we believe that there is advantage in removing the blood as completely as possible from the pleural cavity and in substituting air. We never see secondary hemorrhage.

The current opinion that blood in the pleural cavity is efficient in checking hemorrhage is not true if in removing the blood we substitute air, inducing a positive pressure sufficient to cause collapse of the lung. We believe that in every case in which a lung wound is demonstrated pneumothorax should be performed. We perform it also in cases of contusions of the lung which are apt to be followed by complications. Contraindications are evidenced when adhesions prevent the introduction of air or when the air escapes through a gap of the chest wall which could not be completely closed, or through the lung wound itself. But such contraindications are exceptional. The indications for complete operation in our practice are very limited, and when the chest is a closed one we believe that it should be performed exceptionally. While if the chest is open, and especially if the opening is large, naturally it is more often indicated to inspect and treat the lung wound. We have had no case in which we were obliged to resort to a complete operation for hemorrhage. We believe the operation should be performed when a foreign body in the pleural cavity can be demonstrated. We believe that closure of the open chest should be made as promptly as possible and we found useful the introduction in the chest wound of a small rubber bag which when inflated sealed completely the opening. These bags and the apparatus for performing the pneumothorax, devised by Major Morelli, will be shown by lantern slides. In 206 cases of lung wounds with closed chest treated by pneumothorax alone or by thoracentesis and pneumothorax there were seven deaths. Among the cured cases we saw only twenty-two complications. Of the open chest there were eighty-four cases with a mortality of nineteen, 22 per cent. Of these nineteen patients, eight died in the first fourteen hours. Of the seventy-six treated by pneumothorax after removal of the blood there was a mortality of eleven, 14.5 per cent. In this series of open chest, there has been a great improvement, since was systematically adopted my plan of suturing the chest wall air-tight instead of plugging permanently the gap with the rubber bag. In thirty-five cases so treated we had two deaths. I think that these results compare favorably with any result in any other army by any other means of treatment.

Surgery of the Lungs. Col. Sir Thomas Myles, Dublin: It must never be forgotten that the man with a bullet in his lungs has a bullet in two places, in his lung and also on his mind. It is to get rid of the bullet on his mind that the second operation is often undertaken. Sir Berkeley Moynihan believes that the mechanical effect of the bullet in the lung is in many cases comparatively small, while the effect on the man's mind is very large. The only reliable method of examination is by the roentgen ray, and for the removal of the foreign body Sir Berkeley Moynihan finds that with few exceptions an incision at the level of the fourth rib offers an easy route of exit. The lung is to be handled as gently as possible in searching for the foreign body, and when located it is a simple matter to make an incision and extract it. A stitch is then inserted with a curved needle. It is of great importance not to encourage a too rapid inflation of the collapsed lung. It is of service to maintain a pneumothorax for a few days when necessary to break down adhesions.

Later Stages of Gunshot Wounds of the Lungs. Major G. Gray Turner, Newcastle-on-Tyne: In the early stages of the present trouble it was not the custom to carry out any active surgical intervention, and the practice of the surgeons at the front reflected on the practice of those in the stations behind the battle line. As a consequence quite a number of men suffering from penetrating wounds of the chest and with retained foreign bodies came to the base hospitals. About the middle of 1915 we determined to see if they could not be relieved by active surgical methods. We found that many were suffering from incompletely absorbed hemothorax, some from neurasthenic symptoms, some from injury to the underlying lung. In a limited number of cases the foreign body in the lung gives rise to cough, hemoptysis and symptoms suggestive of suppurative processes. We have found, on operation, band-like adhesions in the track of the bullet, the site of persistent infection, due possibly to the movement of the lung.

The best results in gunshot wounds are obtained in those cases in which there has been a through-and-through wound. These men make a good recovery up to a certain point but break down under the stress of military training. On opening some of these cases it is found that the blood is an organized clot. The lung is perfectly smooth as though encased in a sac. By splitting up the fibrous coat-ing, the lung is enabled to distend. A similar condition in the diaphragm is dealt with in the same way. The worst feature found on opening the chest is that of adhesion of the base of the lung to the diaphragm. I am inclined to think that a certain amount of the disability here found is due to the hemorrhage and want of expansion of the lung for a considerable time. The lung becomes retracted and this position is not overcome by the respiratory exercise. It is not fair to speak of these operations as though they were to be lightly undertaken. The risk, however, is very small. Recovery depends on the amount of damage done to the lung tissue at the time when the operation is undertaken. Sufficient time has not elapsed to say what the ultimate history of these cases will be. It is not enough to say that the patient can be returned to duty. We must know the condition months or years hence before we can speak with certainty. This is a branch of war surgery not yet sufficiently practiced but for which the time for development is ripe. The nearer to the battle front can be brought our first line of surgical defense, the better will be the results. The success of thoracic surgery in this war has been a very good demonstration that the general principles of surgery are true wherever applied.

COUNTY SOCIETY REPORTS

FRANKLIN—NOVEMBER

The Medical Society of Franklin County met in the office of the Chambersburg Hospital on November 19, President Gordon presiding. The meeting was called to order at 2:25 p. m., with a fair number of members present and as a guest Dr. Howard L. Hull, Harrisburg, a former member of the society, now of the Department of Health of Pennsylvania. The report of the Board of Censors was favorable in the application of Dr. John H. Mayer, Chambersburg, who was elected to membership.

On motion of Dr. John W. Croft, Waynesboro, duly seconded, the society commended and endorsed the very capable way in which the Department of Health of Pennsylvania has managed the quarantine in the epidemic of influenza. The secretary was instructed to transmit this to the department.

Dr. J. Burns Amberson, Waynesboro, discussed the comparison between the epidemic of 1889-1890 and the present outbreak of influenza. He considers that no difference was present except in degree, with marked contagion. The cases called pneumonia, in his opinion, differ with what we understand about pneumonia. There appears to be rapid catarrhal conditions spreading in the lungs and death by suffocation. There is here a great field for close study. In the efforts by some in self-treatment, as preventive, in the form of cathartics and by alcoholic beverage, much harm is done and all such cases were worse thereby. In treatment he uses salicylates, iodids, in the form usually of iodids of soda, with quiet and rest.

Dr. L. M. Kauffman, Kauffman, discussed treatment of the disease, along general lines. He said the disease being so varied it was impossible to detail any special treatment.

Dr. Howard L. Hull, being accorded the floor, discussed the influenza in its contagion and otherwise in an interesting way. He gave, in detail, a description of some of the work being done by the department in the study of influenza. He showed how difficult it would be for the department to carry out any form of quarantine of the individual cases or families. He spoke of the harm in the use of alcohol in influenza, that such effect was recognized and its use generally discouraged. The habit or use of gargles and sprays as preventives were of no definite good, rather harmful in many cases.

John J. Coffman, Reporter.

PHILADELPHIA—OCTOBER

The Philadelphia County Society met Oct. 23, 1918, at 8:30 p. m., with President Hammond in the chair. A Symposium on the Further Study of Epidemic Influenza was presented.

"The Value of Active Immunization with Vaccine Virus Against Influenza," was given by Dr. John H. Kolmer. Sufficient time has not elapsed to permit of definite conclusions regarding the value of vaccines in the prevention and treatment of epidemic influenza, and what I have to say is to be interpreted purely as a preliminary statement. By most bacteriologists the disease is regarded as due to the influenza bacillus. In our own work I may say that we are experiencing considerable difficulty in isolating this bacillus. The streptococcus, according to our observations, seems to predominate in our findings. The vaccine which we have prepared contains not only the influenza bacillus, but likewise the pneumococci, particularly Types II and IV, which we have found to predominate in the sputum and in the pulmonary lesions, also many strains of streptococci and of micrococcus catarrhalis.

At the present time we have certain serologic investigations under way to determine the more exact relationship of these organisms to the disease, and in a preliminary way I may state that such evidence is at hand indicating that the streptococcus and micrococcus catarrhalis are also concerned in the pathology of the infection, possibly not as primary agents, but as secondary factors of considerable importance. Our dosage, that we might not reduce the resistance, has been small doses of the vaccine at intervals of three days until three injections were given. A distinction should be made as to the practical value of commercial stock vaccine and that prepared of organisms from the present epidemic. Several thousand doses of the vaccine we have prepared have been distributed in this city. The reports which have reached me have been generally favorable, but they are to be accepted with a good deal of reserve for the present. It would seem that the administration of the vaccine at intervals of three days does protect a certain percentage of individuals against influenza, but it does not confer absolute immunity. Reports reaching me by direct correspondence from Boston, Rochester, and other cities are of a similar nature. We may, therefore, tentatively assert that the vaccine is worthy of trial, particularly in institutions and hospitals where a large number of people necessarily congregate. In the treatment of the disease with the bacterial vaccine we must be even more conservative. The majority of clinicians who have used our vaccine are of the opinion that it has cut short the febrile period and mitigated the symptoms. I am not prepared, however, to make any definite statement this evening. We believe that the vaccine is well worthy of trial in the prevention of disease, that it may even prove of distinct benefit in treatment, provided it is given early and in small doses. I think the dosage bears important relation to the results.

"The Physical Findings in Pneumonia Complicating Epidemic Influenza," was given by Dr. M. Howard Fussell. The simple case of influenza begins with cough, pain in the legs and back, depression, temperature of from 98 to 103 for a day or two dropping back to normal, again rising and again dropping. In a case in which the temperature after having been normal for three or four days rises to 103 and 104 and remains at that point for two or three days you may expect lung involvement. In hospital and private work I have been impressed with the fact that one of the greatest factors in bringing about severe cases of pneumonia is that the patient with influenza has been well for two or three days, has gone about and then develops pneumonia. This has been borne out in the experience of the nurses in two of our hospitals. In one hospital eighteen out of twenty-four nurses have been sick with influenza; two or three of these developed pneumonia and all recovered. In another hospital sixty-five nurses had influenza, three had pneumonia and all recovered. This was not because of any specific treatment, but due to the fact that the instructress of nurses was told that the moment they developed the first symptom they should be put to bed and kept there until the attack was entirely over. In the pneumonia the first thing you hear is dulness over the affected area; coincident with this there is crepitation; in a day or two you find moist large râles; later, when the patient is almost well, you hear blowing breathing and instead of ending in a few days the whole chest becomes involved. The other cases of pneumonia begin suddenly like lobar pneumonia; the patient soon becomes cyanosed, the pulse is not very rapid until the very end; the tremor and cyanosis indicate an overwhelming toxemia and the patient succumbs in spite of any treatment. I have tried everything and in every such case the patient has died.

The length of time that the physical signs last is a curious factor. In one instance the patient had had no fever for ten days, but the physical signs in the chest were about as bad as when the temperature went to normal. The blood in the sputum lasts a long while; the patient may be apparently well and yet spit about as much blood as in the beginning. The menses are apt to appear at an unusual time. Nose bleed is common. In the majority of cases the mentality is clear although the infection is so terrific and is going to kill in a few hours. Only two persons over fifty in my experience have had the disease; only four have had empyema; there have been three or four cases of parotiditis. These suppurate and may rupture causing death by sepsis. The cases I see get well by the ordinary surgical methods. The mortality of the disease, of course, is very high; in 320 cases there were ninety deaths. This does not mean death by pneumonia, for many died within twenty-four hours. There were only four recoveries among pregnant women.

"Report of Eight Cases of Acute Appendicitis Complicating Epidemic Influenza" was given by Dr. Moses Behrend. The recent epidemic of influenza often accompanied with its lethal complication, pneumonia, has furnished many occasions for the differential diagnosis of a chest, or an abdominal condition. When this differentiation cannot be made it is advisable to operate with the aid of nitrous oxid gas and oxygen anesthesia. In the event of a mistake the course of pneumonia, in my experience, has not been altered, all the cases ending in resolution. Close inspection without the aid of physical signs will often make the diagnosis. The one sign which more than any other differentiates pneumonia from appendicitis is rapid breathing with playing of the alae of the nose. This is absent in acute appendicitis. It has been a constant observation that appendicitis occurs in increased numbers after epidemics of influenza. Lechtenstern believes the condition a typhilitis rather than true appendicitis, that exceptional cases of true appendicitis may occur, and that coincident appendicitis simply accompanies an attack of influenza. In only one of the eight cases observed by me was there history of several attacks of appendicitis, nor can I subscribe to the theory of typhilitis. Such cases were primarily appendicitis, the inflammation spreading to the cecum by continuity. In the eight cases observed, three patients were operated on and recovered. The other five were not operated on because it was feared from the great number of râles pneumonia would result; the râles were more indicative of an extensive edema than the characteristic pneumonia. In these the appendiceal symptoms gradually subsided. In all the cases the appendicitis had developed at the height of the influenza.

"The Nasal Complications of Epidemic Influenza" was given by Dr. G. W. Mackenzie. Practically all our knowledge of the anatomy and pathology of sinus disease dates from the works of Zuckerkandl and Hajek some years after the last world epidemic of influenza (1889-1890). The contradictory reports of R. W. Allen, C. H. Benham, Will Walters and the writer on the bacteriology of the disease demonstrate the present-day lack of knowledge of the subject. Septal deflection is one of the most important predisposing causes of sinus disease. To guard against the intranasal complications of epidemic influenza treatment should be directed to the systemic condition to secure a complete recovery. There should be avoidance of local applications to the nose and throat, for the reason that there is no antiseptic sufficiently strong to destroy a virulent strain of the bacillus influenzae which will not injure the mucous membrane. The person should breathe through the nose and not through the mouth, and by this is meant breathing through both sides simultaneously. The use of alcohol should be avoided. In the cases of influenza, in patients dying promptly from cerebral complications, suppuration of one or more of the sinuses has probably been an important factor. From the rhinologist's viewpoint an acute sinus disease is treated conservatively by drainage. Results thus far observed in the treatment of obstinate suppurations have been better from surgery alone than from vaccines alone. The subject of the diagnosis and treatment of accessory sinus disease is important technically. The science is a rather new one, our knowledge of which, while considerable, is but fragmentary compared with that which is promised.

Dr. Richard C. Norris, in discussing: The extraordinary high mortality of influenza in pregnant women is undoubtedly due to the fact that these women are overwhelmed with toxemia while their resistance is reduced by the process of pregnancy. The arrangement of the Preston Retreat has made it peculiarly free from epidemic influences. We have had relatively few cases and, having abundant room for them, these have been isolated at once. We have put the cases at once in charge of a special nurse and prevented contact with the rest of the house, the food supply being taken to the room. We have had no deaths. One woman brought in by the ambulance from another hospital where there was no room had a pulse of 138-140 and was cyanotic. She got well and did not miscarry. Whether she had pneumonia or not I do not know. Her temperature was 104; respirations, 32; pulse, 138. There was not a sign of pneumonic change that I could detect. I am wondering whether the respiratory rate is a better guide to the diagnosis of pneumonia than the rise of temperature. At the Methodist Hospital the story is entirely different. Within a week there were ten women brought into the institution with pneumonia and, of these, nine died. Out of that entire group there are but three living children. Of influenza cases unaccompanied by pneumonia in my own private practice I have seen five. All have recovered; three have had living children. In consultation work I have seen many cases stricken with influenza and pneumonia in which I have been asked to advise concerning induction of labor. My position is that if a woman who is carrying a load of either influenza or pneumonia has added to the carrying capacity the extra load of falling into labor she is very greatly handicapped and had better be left absolutely alone. In two earlier instances in which the cases were borderline cases I induced labor and the patients died. Since that time I have declined to induce labor. Wherever I have heard of it being done it has not lessened mortality. In three cases with no signs of pneumonia I have thought it necessary to induce labor in two because of the added toxemia of pregnancy. In that type of case I believe it is the duty of the obstetrician to act for the advantage of the patient. These women have recovered. In multiparae some of whom were exposed to the most virulent type of influenza and others showing slight fever I have terminated the pregnancy and all made good convalescences and the children have all lived. This, however, is not justifiable in primiparae.

Lieut. Russell S. Boles: Of the cases observed at our hospital the most noticeable feature was the marked drowsiness with the men falling into deep slumber. The onset of the infection was sudden, the incubation period being apparently from twelve to forty-eight hours. There was a lack of coryza and sneezing. We did not observe a very harassing cough. The epistaxis present may have been due to the congestion with coughing. Fever of 101-105 was nearly always present. There was severe lumbar backache, attributed to the intense degree of nephritis which had developed. A peculiar cyanosis like that of acetanalid was noted. The abdominal pain confused the condition with appendicitis. These symptoms were all distinctly ameliorated, especially the cyanosis, as the disease progressed. Of the 525 cases of influenza there were 168 cases of pneumonia with forty-eight deaths. In five cases there was severe relapse after sending the boys back to the training camp. In these apparently early recoveries emphasis should be placed on the importance of carefully guarding them after they are thought to be well. The complication of nephritis was sometimes very severe. Otitis media was present in some ten or fifteen cases; four suppurated. There were many so-called mastoiditis cases, but none went on to suppuration. The gastro-intestinal complications when severe were regarded as unfavorably influencing the prognosis. Pleurisy and empyema were relatively uncommon. We felt that immunization with the vaccine, while not an absolutely sure preventive, had some value. Our greatest reliance in prophylaxis was the mask.

Dr. Thomas C. Ely: In the recent epidemic I have treated my influenza patients by first cleansing the intestinal tract with calomel and a saline purge, followed immediately by the active administration of the alkalies, sodium bicarbonate, potassium citrate and lime water. Granted that the organisms enter through the nose and mouth they are quickly transferred to the alimentary tract. At the outset and throughout the attack I have given every patient the three well-known alkalies with which we combat acidosis, bicarbonate of soda, citrate of potash, and the calcium salts in the form of lime water. To every patient is administered a teaspoonful of bicarbonate of soda to a pint of lukewarm water every four hours by enema. In my routine treatment I have given the following simple prescription to spare the overworked druggists: Sodii bicarbonate, ½ ounce; aqua menth. pip., 4 ounces; teaspoonful every two hours. With this I have alternated: Potassium citrate, ½ ounce; aqua menth. pip., 4 ounces; teaspoonful every two hours.

The calcium salts I have given in the form of lime water one-third and milk two-thirds. Some patients with fulminant attacks of vomiting and terrific headaches could not tolerate the potash salts; and to such I have given only the sodium bicarbonate mixture every hour, and the soda enema as above. Even in severe cases the soda will relieve the early pains in twenty-four to forty-eight hours. I have used neither aspirin, coal tar series, heart depressants, serums or vaccines. I have employed the common heart and respiratory stimulants. I do not think all these patients so desperately ill could have recovered in so fatal an epidemic without the basic treatment by the alkalies on the acidosis theory. When well tolerated I have given quinin, 4 grains, morning and evening, and I have recommended quinin quite universally in connection with the soda salts as a preventive. I have also given every four hours during convalescence, and even earlier: Strychnin, 1/40; quinin bisulphate, 2 grains; taka diastase, 1 grain.

I believe early sweating by hot drinks and the giving of water only during the first twenty-four hours are beneficial procedures.

Dr. S. Solis-Cohen: There is no question in my mind that the use of mixed bacterins is highly scientific, useful, advisable and necessary. They prevent the incidence of influenza and pneumonia; when they fail to prevent the incidence they render the attack much less severe and give greater promise of favorable issue. The mixed bacterins seem to give some protection against the streptococcus, the most deadly of all the bacteria concerned. We have drugs that will protect us against the pneumonia bacillus, but none that will protect us against the streptococcus. I would hesitate to give them in the presence of influenza and streptococcic toxemia at a late stage, but when they can be given early I stand as firmly on their efficacy as I do on the use of mercury in syphilis or of quinin in malaria. Regarding the question, why so many pregnant women die, I agree with Dr. Ely, that early alkalinization of the blood throughout every attack of pneumonia, of influenza and mixed infection is an imperative duty I am glad to have heard Dr. Ely's statement and I hope it will sink deeply into the consciousness of every one here. I am convinced that aspirin and phenacetin are responsible for many of the deaths in pregnant women.

Dr. William Egbert Robertson: I have been impressed with the small number of colored people who have been affected in this epidemic. I think it is the general experience that this race has been rather exempt. My results in the early intravenous administration of bacterins, particularly the sensitized bacterins, in the present epidemic have been little short of brilliant. I have been surprised to find that food has been withheld from patients with temperature. If a patient is fed up to his ability to take food I think his opportunities to recover are enhanced.

PHILADELPHIA—NOVEMBER

The Philadelphia County Medical Society and the Babies Welfare Association held a joint meeting, November 13, at 8:30 p. m., Major John W. West, in the Chair.

"What the American Red Cross Is Doing for the French Children, and Its Application at Home," was presented by Dr. J. H. Mason Knox, Baltimore, Assistant Director, Children's Bureau, American Red Cross in France. I know this is a sympathetic audience, brought together in the interest of child life, an audience entirely convinced that the greatest public health proposition before the civilized world is the preservation of the baby. I am confident also that you agree that the problem is one which should elicit the best attention, the unreserved resources of the state; no appropriation is too great if the result can be obtained. The project should have the cooperation of all private citizens who know what the second line of defense means for the future of the country. The Red Cross, working as an outside instrumentality, has been able to bring into harmonious cooperation all agencies having to do with the betterment of child life in France.

The situation in France is critical. While the infant death rate is not enormously high, in one or two provinces being under 10 per cent., the birth rate averages something less than fifteen per thousand. The birth rate had fallen slowly before the war, and with the withdrawal of so many of the men for military service, and women for munition work, the rapidly falling birth rate was a natural result. The problem in France, therefore, is twofold: The increase of birth rate and the decrease of infant mortality. The low birth rate of France is probably due in part to the inborn desire of the French people to live comfortably. The laws of France requiring equal inheritance among children may be a factor; for example, the farm may be large enough but for one. Since families are so small, it is twice as important to save a French baby as that of any other race. The work of the Children's Bureau in France was divided into two departments: (1) That made up of remedial agencies for meeting present distressing circumstances; (2) that dealing with constructive work. In the first department were the things done for the babies of the soldiers, the city population, and the children of the refugee families. In a small village near the German front a large number of children had been subjected to gas attacks. These, of course, were too small to wear masks. They were placed in large military barracks and Dr. Lucas of San Francisco was asked to take the medical care of them. For these 500 or more children a hospital was developed, first of 30 and then of 50 and 100 beds. There has been developed also a chain of rural dispensaries illustrating to the poor people of the small villages the methods of caring for children. Small hospitals were established, and automobile dispensaries with the personnel of a doctor, a nurse or one or two nurses' aids made two visits a week in each town. In case of need the nurse or nurses' aid would be left in a village. A clinic was held twice a week. Two or four automobiles covered the whole area of country of 30 or 40 miles in the vicinity of Toul and Nancy. A number of tuberculosis camps have also been established. Dr. Killen of New York, on whom the children look as a patron saint, has been doing a remarkable work near the town of Nancy. One group of nearly a thousand has been moved to the seashore at Brittany for the summer where the children have done wonderfully well. A great difficulty will be confronted in returning these children to their families, the adults all being needed for the commercial life of the town.

In the Belgium Commission with which we were closely associated under Mr. Bicknell, Dr. Park of the Johns Hopkins opened a clinic for children. These children give one much encouragment for the future of Belgium. We were all impressed with their splendid spirit and character. The Refugee Bureau cooperates with the French officials in finding homes for the people and supplying them with furniture and other needed articles. Every child under 12 years of age coming through with the convoys of refugees is examined to detect infectious disease or other condition which might be a menace. Forty per cent. of the convoys were children, so you can imagine the number that had to be passed on by the doctors and nurses. The Children's Bureau has, twenty miles from Lyons, a large chateau with 200 acres of ground where convalescent cases are taken and kept until able to go on to their destination. The German consulate has been taken over by the Children's Bureau and made into a hospital. Two other buildings in the vicinity of Lyons have been converted into hospitals for the children.

Paris is the center of things. Here the Children's Bureau has opened twenty dispensaries, but always after the most careful examination to see that they did not conflict with French organizations, and always with the support and encouragement of the French physicians. The nose and throat work is exceedingly important in France. The complete removal of tonsils is not done as often as some of us think ought to be done. We secured a small private hospital for nose and throat work and here perhaps a hundred cases are treated a week.

We found that many of the children need food and not drugs, that the principal meal of the day was given at the school and that this meal had to be largely curtailed. The members of the Children's Bureau supplemented the food so that the children might have the same as before the war. In one section sweetened bread and chocolate were given on behalf of the children of America to the children of France, and the children were told that the children of America were sharing their bread with the children of France.

Our touch with the Army was not very close, but we took care of the orphans supported by the American soldier. The "Stars and Stripes" gave opportunity for groups of soldiers to be responsible for these children. The Children's Bureau supplied the orphans and the care, while the soldiers supplied the money. Our nurses would see that postal cards were written by the mother to her husband at the front saying that she had been assisted by the American Red Cross and would be taken care of. We have had many evidences that that little service was appreciated.

For constructive work in France there is a unique opportunity at this time. One form of educational propaganda is carried out by the use of automobiles equipped to present infant welfare and tuberculosis work. Under the Rockefeller Foundation a large amount of work is being done in the matter of tuberculosis. As a result of bringing together various agencies there is always a personnel ready for follow-up work after interest is aroused. Crowds of people attend the exhibits. Illustrations of the prenatal and postnatal care of the baby, with feeding at various stages, also of playground work, are made use of. In these exhibits the "Punch and Judy" show has been used to good advantage in representing the ignorant mother brought to terms. Even in this country I think it might be used in putting over some of the practical truths in baby welfare work; 170,000 people visited the show in three weeks.

France greatly needs trained nurses. We had to train the French people, and that was a great opportunity. Lectures were given by French physicians and practical training given at dispensaries or at institutions where mother and baby were cared for. I consider the training of the French nurse is one of the most important phases of constructive work in France that the Children's Bureau has been permitted to do.

Intensive work designed to reach every baby has been organized under the French officials. A ward is divided into four quarters; a record of every child born in one of the sections is made in the central office, and the name given to the organization responsible. The mother is visited and a certain allocation made if the mother can keep the baby. We believe that if by this intensive work the death rate can be shown to be lower the cooperation of the French people can be readily secured.

On the nonmedical side, scholarships have been established. A big national organization in association with the American Red Cross has agreed to select promising children in a family to whom scholarships will be awarded.

Infant welfare work is the same the world over. It should be taught in our schools, but until that time it must be taught in the homes, and the nurse as the social visitor is the instrumentality by which this shall be done. The relation of infant mortality to the daily wage is a very close one. When the wage is below a certain point, infant mortality is very high. For the sake of the baby we must be willing to supplement the daily wage by some form of allocation. (Lantern demonstration of the work of the Children's Bureau in France.)

NECROLOGY

IN MEMORIAM—SAMUEL A. LACOCK, M.D.

The following memorial note was adopted by the Washington County Medical Society at a meeting held November 12.

Again we pause in the hurry and worry of active professional life to plant an evergreen of love and memory for one of our best members; one who made an effort to attend all the meetings of the Washington County Medical Society; one who was always cheerful and had a good word for all of us.

Dr. Samuel A. Lacock died at the West Penn Hospital following an operation for gallstones, on Sept. 18, 1918.

Dr. Lacock was born Dec. 23, 1849, in South Franklin Township, Washington County. He passed his younger years on the home farm and in the country schools, later attending W. and J. College and at Bethany College, West Virginia, graduating there in 1873. He attended Medical College at Ann Arbor, Mich., in 1875, and at the Jefferson Medical College in 1876-7.

Our friend, Dr. Samuel A. Lacock, has been removed from our visible sight, but the lessons he taught us, the grand sentiments he uttered, the deeds of generosity he performed still survive and appear on the tablets of memory. Being dead yet he speaks in our midst, and we may say with the poet:

"There is no death! The stars go down
To rise upon some fairer shore;
And bright in Heaven's jeweled crown
They shine forevermore.

"There is no death! The dust we tread
Shall change beneath the summer showers
To golden grain or mellowed fruit,
Or rainbow tinted flowers.

"The granite rocks disorganize,
And feed the hungry moss they bear;
The forest leaves drink daily life,
From out the viewless air.

"There is no death! The leaves may fall,
And flowers may fade and pass away;
They only wait through wintry hours,
The coming of the May.

"There is no death! An angel form
Walks o'er the earth with silent tread;
He bears our best loved things away;
And then we call them 'dead.'

"The well loved voice, whose joyous tone,
Made glad these scenes of toil and strife,
Sings now an everlasting song;
Around the tree of life.

"And ever near us, though unseen,
The dear immortal spirits tread;
For all the boundless universe
Is life—there are no dead."

J. N. SPROWLS,
C. C. CRACRAFT,
Committee.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1918, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Lutein Tablets—H. W. and D., 2 Grains.—Each tablet contains 2 grains of lutein (the fully developed corpora lutea of the hog, dried and powdered). Hynson, Westcott and Dunning, Baltimore, Md. (*Jour. A. M. A.*, Nov. 2, 1918, p. 1485).

Rabies Vaccine (Harris).—An antirabic vaccine standardized by the method of Dr. Harris and stored in vacuo. Each package contains vaccine and apparatus for the administration of one complete treatment. One dose is given daily for ten days or more. National Pathological Laboratories, Chicago (*Jour. A. M. A.*, Nov. 30, 1918, p. 1825).

PROPAGANDA FOR REFORM

Peneguents.—Indiana physicians have been visited by the representative of the American Ointment Company who distributes samples and discourses on "Peneguents." He admits that his preparations have not been accepted by the Council on Pharmacy and Chemistry, but attempts to offset this by a report of the National Research Council which he hands out with other "literature." A glance at the Ointment Company's "literature" makes it clear that its preparations could not be admitted to New and Nonofficial Remedies. The report of the Research Council does not pretend to pass on the therapeutic usefulness of the preparations, but apparently was made to check the statements made in regard to their composition. It brings out that the composition of the ointment base is not divulged by the manufacturer, and that "Peneguent Chlor-Iodine," claimed to contain "Iodine Resub. 5%," contains but 0.37 per cent. free iodin, the remaining iodin having combined with the ointment base. Since the complex and semisecret character of their formulas and the unwarranted claims should have been sufficient to preclude the use of these proprietaries by the U. S. Army, it is difficult to understand why the examination was made (*Jour. Ind. State Med. Assn.*, Oct. 15, 1918, p. 374).

Digestive Absurdities.—Scientific investigations have demonstrated beyond any doubt the irrationality of the combinations of digestive ferments which go to make up the various brands of aromatic digestive tablets, and all chemists and manufacturing pharmacists are familiar with these facts. The excuse for manufacturing them is that there is a call for them. It is a question whether the physician who ignorantly prescribes aromatic digestive tablets is not more morally culpable than the pharmaceutical house that supplies what such physicians demand (*Jour. A. M. A.*, Nov. 2, 1918, p. 1489).

Dependability of Dosage in Tablets.—One of its products (Aromatic Digestive Tablets) having been reported deficient by the Connecticut Agricultural Experiment station, the Harvey Company, Saratoga Springs, N. Y., holds that it should not be criticized if its Aromatic Digestive Tablets are below the declared strength. It seems to hold the opinion that it does not matter whether or not these tablets contain the amount of ferments claimed on the label, since in any case these ferments would mutually destroy each other as soon as such a tablet came in contact with the digestive secretion. No excuse can be offered for those physicians who prescribe such absurdities as Aromatic Digestive Tablets, but neither is there any justification for a firm selling a product which it knows will not measure up to the claims made for it (*Jour. A. M. A.*, Nov. 2, 1918, p. 1510).

Value of Vaccination Against Influenza.—There is no conculsive evidence that the Pfeiffer bacillus plays any greater rôle, if as great, in the present epidemic than any other bacteria found in the respiratory tract in this disease. Also, the influenza bacillus is a very poor antigen. There is, in fact, nothing to show that definite antibodies against this bacillus develop in the course of influenza. Animal experiments show that it requires prolonged immunization before any response becomes apparent. Again, there is no record of controlled experiments on human beings with influenza vaccine. From this it is evident that vaccination against influenza is in a wholly experimental stage (*Jour. A. M. A.*, Nov. 9, 1918, p. 1583).

More Misbranded Nostrums.—The following nostrums have been proceeded against under the Federal Food and Drugs Act: Baker's Tubercular Remedy, containing 11 per cent. alcohol by volume, sugars, potassium iodid, ammonium chlorid, glycerin, licorice, plant extractives, etc. Lee's Save the Baby Croup Specific, a liniment with a fatty oil base containing camphor, rosemary and thyme. Lee's Croup Mixture, containing over 70 per cent. of lard, about 7 per cent. alcohol, and over 18 per cent. volatile oils, consisting of a mixture of oils of rosemary and thyme and camphor. Twentieth Century, consisting of a powder and a solution, the latter, essentially a mixture of water, glycerin, lead and zinc sulphates, acetates, nitrates, and a small quantity of perfume. Moreau's Soothing Wine of Anise a syrup containing morphin acetate and alcohol, and flavored with anise. Professor C. E. Matthai's Victory, containing 49 per cent. alcohol, 1.2 grains of opium to the fluidounce, and 3.5 per cent. camphor and volatile oil, and small amounts of red pepper. Sensapersa, tablets containing asafetida, cannabis indica, and a drug containing a mydriatic alkaloid (*Jour. A. M. A.*, Nov. 9, 1918, p. 1601).

More Misbranded Nostrums.—The following "patent medicines" have been declared misbranded under the U. S. Food and Drugs Act, and a "Notice of Judgment" giving an account of the prosecutions issued by the U. S. Department of Agriculture for each: Jacobs' Liver Salt, an effervescent preparation consisting largely of sodium phosphate, sodium sulphate, and sodium chlorid. Lydia Pinkham's Vegetable Compound, containing 17.9 per cent. alcohol, and 0.56 gm. of solids to each 100 c.c., with vegetable extractive material present. Maguire's Extract of Benne Plant and Catechu Compound, containing over 39 per cent. of alcohol and 1⁄10 grain of morphin to each fluidounce, besides camphor, catechu and peppermint. Hood's Sarsaparilla, a mixture of alcohol and water, containing about 0.9 per cent. of potassium iodid with sugar, vegetable extractives, which give indications of the presence of sarsaparilla, licorice, and a laxative drug resembling senna. Booth's Hyomei Dri-Ayr, consisting essentially of oil of eucalyptus, together with a small amount of resin-like solids and a mineral oil and a little alcohol. Hill's Kidney Kaskara Tablets, an iron oxid, sugar-coated tablet carrying emodin, caffein, acid resin, magnesium carbonate and talcum. Hancock Sulphur Compound, a calcium sulphid solution. Hancock Sulphur Compound Ointment, a petrolatum ointment containing sulphur, ash (chiefly lime) and phenol. Palmer's Skin Whitener, containing ammoniated mercury, mixed with a fatty base. Grossman's Specific Mixture, a balsam copaiba mixture (*Jour. A. M. A.*, Nov. 16, 1918, p. 1681).

THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

VOLUME XXII
NUMBER 4
CHICAGO, ILL., AND ATHENS, PA., JAN., 1919
SUBSCRIPTION:
$2.00 PER YEAR

ADDRESS

SPONTANEOUS HEMORRHAGE INTO THE VITREOUS *

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In view of the uncertainty connected with the etiology underlying the occurrence of spontaneous hemorrhages into the vitreous from the retinal vessels, the accompanying case report may be of value for several reasons.

The patient is a woman far above the average in intelligence. Her husband is a physician. Unlimited time was accorded for thorough clinical and laboratory study in a well equipped hospital and the treatment was given by intelligent and interested attendants.

The history of the case follows:

Feb. 11, 1918: Patient born in America, married, housewife, was 43 years of age. Family history: Father was accidentally electrocuted at 72 years of age. Mother was living and well at 62. Mother's sister had pulmonary tuberculosis but has recovered. Patient has three brothers and one sister living. Oldest brother has been suspected of having tuberculosis but a positive diagnosis has never been made; other two brothers are in good health. One sister died at 29 of eclampsia. The other is suspected of having tuberculosis. Patient has two sons, aged 9 and 8 years, in vigorous health. No history of ocular disease in any member of her family. Personal history: Patient had whooping cough in childhood, measles at 12 years and chickenpox at 30 years of age. Made a good recovery from each. Patient has always had occasional nosebleed. She was married in 1907. (Some time after the birth of her two children, patient's husband was accidently inoculated with syphilis.)

Present illness: Fourteen years ago (three years before her marriage) while at a meal after having done some light work in the garden, the left eye "went black" with no other subjective symptoms nor with any pain or signs of inflammation about the eye. The vision cleared up somewhat but recurrent attacks each left the vision somewhat less. Patient underwent treatment for about a year and then becoming discouraged, gave up treatment. The left eye had by this time diverged, whereas it had been straight before. Oct. 15, 1916, while seated talking to her husband she experienced the same phenomenon in her right eye that had occurred to her left one twelve years before.

She received fifteen intravenous injections of salvarsan during the next six months and potassium iodid was exhibited internally. Locally, 5 per cent. dionin, 1 per cent. atropin and hot compresses were used. At the end of this time, not having made much progress but having experienced several small fresh hemorrhages, she entered a hospital to undergo pilocarpin sweats and intestinal elimination. This was continued until July, 1917, when vision had sufficiently recovered for the patient to be able to read the newspaper. A month later a small hemorrhage occurred, another one two months later and a severe one in December, 1917, which left her quite blind in her remaining eye in which state she was when she appeared Feb. 11, 1918.

Physical examination by Dr. C. L. Palmer proved head, nose, teeth (roentgenized), tongue, mouth, throat, and ears to be negative. Posterior cervical glands were slightly enlarged on the left side; heart and lungs, negative; abdomen, negative.

Ocular examination: Left eye diverges; left pupil larger than right and responds very feebly to direct and consensual light stimulus. Corneas, irides and sclerae negative. R. V. = fingers at 2 feet. L. V. = light perception. No details of either fundus can be seen on account of brownish gray discoloration of vitreous. Tension of each eye was normal. She was admitted to the South Side Hospital where the following laboratory tests were made: Urinalysis: Negative for sugar and albumin; specific gravity 1.022, acid in reaction. (Urinalysis after every tuberculin injection yielded the same result.) Wassermann: Blood and spinal fluid negative. Von Pirquet, moderately positive. Blood: Hemoglobin, 85 per cent.; red blood cells, 5,000,000; white blood cells, 6,500; polynuclears, 75 per cent.; lymphocytes, 25 per cent.; coagulation, four minutes.

Treatment: For a week after admission no treatment was given, the patient being kept in bed under observation, which revealed temperature and pulse normal. Specimens were collected for the laboratory and a bismuth meal was given which viewed with the fluoroscope and by a series of plates taken denoted normal alimentation. Roentgenograms of all teeth were negative. February 18, 10 minims P. D. & Co. Old Tuberculin serial 3 were given, followed by a rise in temperature to 99 F.; February 20, 15 minims of the same dilution were given, followed by a like rise; February 23, 17 minims of the same resulted in a rise of temperature to 99.4 F.; February 27, 20 minims of the same did not raise the temperature; March 1, 25 minims of the same caused a slight rise of 0.2 degree above normal; March 5, 30 minims of the same raised the temperature to 99.2 F.; March 8, 35 minims raised the temperature to 99.4 F.; March 11, 10 minims of Old Tuberculin No. 4 serial, same make, caused a decided raise in temperature to

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* Chairman's Address, delivered before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia session, Sept. 24, 1918.

101.6 F.; March 17, 10 minims Old Tuberculin No. 4 serial, caused a prompt rise to 101 F.

After each injection of tuberculin the lungs were carefully examined but no signs of pulmonary tuberculosis could ever be detected. At the same time the tuberculin was exhibited galvanism was applied to the eyes through eye cup electrodes, the negative pole to the eyes, the positive to the side of the neck. The current was controlled by a pantosat and was given, beginning with 3-minute seances of 3 milliamperes each and gradually increased until the patient could tolerate 10 minutes of 10 milliamperes at a sitting.

The injections of tuberculin were invariably followed by a twenty-four-hour to thirty-six-hour period of general malaise and headache, and, as has been stated, there was noted a gradual improvement in the eyes both subjectively and objectively.

It was intensely interesting to observe the vitreous of each eye clear up from day to day, the superior region first, then the two laterals. This was patent also to the patient who could describe the parts of the field as they cleared.

It was not, however, until 10 minims of the No. IV dilution were given that a decided improvement resulted. Before this injection, fundus vessels could be recognized above and at the sides of the fundus of each eye but neither disks nor the central vessels could be seen. Twenty-four hours later it was possible to see all the details of the fundus of each eye, although somewhat obscured, and vision for the first time could be recorded by test-type. There was a steady improvement during the following week and another decided improvement following the second injection of No. IV O. T. a week after the first one.

Early in the treatment several generous-sized subconjunctival injections of normal salt were given but it could not be demonstrated that they had any value, only contributing to the patient's discomfort.

When the ophthalmoscope could finally be used, the disk of the right eye was seen to be sharply outlined, light pink in color and with a nasal crescent of pigment bordering the edge. The vessels are straight and narrow. The sources of the hemorrhages could not be detected. The left disk is atrophic, the vessels fine and the whole fundus pale. The vitreous in each eye had resumed its natural transparency. Under atropin R., with + 1.25 S. ⌢⌣ + 0.75 Cyl. ax. 90° = V 20/30 —; L.V., fingers at two feet.

In attempting to arrive at the etiology of this case by a process of elimination, let us first consider the rôle of syphilis as a possible factor. The first hemorrhage, that into the vitreous of the left eye, occurred three years before her marriage and there is nothing in her past history to lead one to suspect syphilis at that time. On the contrary, she conceived and gave birth to two healthy children who certainly do not give any signs of being luetic.

As to her subsequent infection by her husband, for which she received fifteen injections of salvarsan intravenously, this treatment had no effect on her ocular condition; on the other hand, three more hemorrhages occurred in the right eye (and it is possible, also in the left one), the last a massive one rendering the eye quite blind.

That this treatment did, however, cure her of the syphilitic taint is apparent from the negative blood and spinal Wassermann obtained when this study was begun. It seems logical, therefore, to eliminate syphilis as the underlying cause.

Secondly, a blood dyscrasia could not have been present in this case, neither the laboratory report on the blood nor the appearance of the patient being in the slightest indicative of leukemia, pernicious anemia or other alterations in the blood. And while there is a history of nosebleed early in life, coagulation in four minutes does not point to hemophilia. Nor is there any clinical evidence of septic absorption. The mouth, gums and tonsils were healthy and every tooth was sound, X-ray films having proved this. Intestinal absorption can also be eliminated as a possible factor, bismuth meals proving that gastric and intestinal elimination was in no wise faulty.

This brings us to the tubercular origin of these cases, and certainly in the present case, bearing in mind the surprising and sudden improvement following a sufficient injection of old tuberculin, the significance cannot be mistaken. And yet there could not be demonstrated in this patient at any time the presence of any tuberculous focus. Nor was there a local reaction in any part of either eye, which for years has been taught is to be expected in a true tuberculous lesion following an injection of tuberculin.

I am inclined to put this case in the class created by Axenfeld and Stock in 1911, in which they claim that vitreous hemorrhages in adolescents are due to a tuberculous form of vascular disease, attributable not to the tubercle bacillus itself but to tuberculous toxins.

My experience with commercial tuberculin in this and other cases convinces me that it is only a waste of time to use the weaker and less active dilutions, but to begin with a dose of 2 to 5 minims of the strongest and be governed by the general or local reaction in determining the size of the subsequent doses.

I am likewise convinced of the efficacy of negative galvanism as an agent in promoting absorption of hemorrhages and exudates in the interior of the globe and attribute part of the cure here to this agent.

Union Arcade.

ORIGINAL ARTICLES

DISEASES OF THE UVEAL TRACT AND THEIR SEQUELAE *

SAMUEL D. RISLEY, M.D.
PHILADELPHIA

I have chosen among many possible topics for presentation in our special field of research, the diseases of the uveal tract and will discuss these disorders from the standpoint of etiology and their sequelae. No subject in ophthalmology could have been chosen which presents more features of dramatic interest or practical importance to every medical man. First of all, to epitomize my thesis, I need not remind you that the uveal tract of the eye is developed embryonically from the ectoderm and mesoderm and, therefore, is liable to participation in all of the systemic maladies which affect these tissues elsewhere in the organism, and, because of the anatomic conditions peculiar to the eye and their relation to the physiology of vision, lead to a wide group of sequelae which seriously threaten to impair function. In the time I can reasonably take in presenting the subject, it will be impossible to trace the extended literature and I will, therefore, make only such reference as may be needed to emphasize my own conclusions based on personal study.

My first appreciation of the signal importance of the uveal tract to comfortable physiologic vision was gained very early in my professional experience through the careful clinical study of a large series of cases of recurrent iritis, the results being set forth in a paper entitled, "Iritis—A Clinical Study," presented to the Medical Society of the State of Pennsylvania in 1878, and with greater elaboration in 1884 in a second paper entitled, "Recurrent Iritis." About the same time the observations were being made which led up to the examination of the school children's eyes in Philadelphia, which was primarily an investigation to discover the genesis of the myopic eye. It soon became obvious that in iritis the inflammation did not involve the iris only, but the entire uveal tract, and that the distention or enlargement of the globe in myopia was not, as had been claimed, a physiologic growth, or an adaptation of the eye to the requirements of civilized life as had also been claimed, but was always associated with quite characteristic pathologic processes involving the uvea, especially the choroidal and ciliary regions of that membrane. In a word, myopia was a sequel to the uveal disease. Incidentally, it was demonstrated by that investigation that the children having approximately emmetropic eyes passed through their school life with a minimum of pain and disease, while the eye-strain consequent on congenital abnormalities of refraction and ocular imbalance resulted in pathologic states involving the uveal tract, were invariably associated with pain and lowered sharpness of vision. This was especially true where hypermetropic astigmatism was present; and the percentage of these eyes steadily diminished as the age of the pupils advanced while the percentage of myopic eyes increased in a corresponding ratio. Briefly stated, the myopic eyes were recruited from the hypermetropic eyes through the turnstile of astigmatism and always through the agency of the pathologic states of the uvea produced by eye-strain (more prone in feeble or unhealthy children). This conclusion was fortified by the publication of a series of private patients in which this change of refraction was observed during its progress under the most careful scrutiny.[1] Then, too, I have had the opportunity to observe a hypermetropia of 2 D. converted into a myopic refraction after a prolonged attack of severe iridochoroiditis where adhesions of the iris to the lens capsule had been prevented by treatment. and the lens remained clear. The myopia was, therefore, due to axial increase. The patient was a man, aged 45, with a marked tendency to rheumatoid arthritis. The iridochoroiditis was a distressingly painful experience and a tendency to increased tension of the globe had constantly to be combated, the violent attacks of pain being relieved only by instillations of eserin. It is my frequent practice to use weak solutions of eserin salicylate at intervals between the instillation of atropin in the treatment of all uveal affections.

At first thought, the progressive myopia of youth and the glaucomatous eye of after middle life are as far apart as the poles, but careful consideration will show that the relatively tender sclerotic of youth distends under the undue intraocular tension produced by the congested and inflamed vascular choroid and ciliary body in the presence of eye-strain or disease and the diameters of the eyeball increase. In a word, it becomes myopic. On the other hand, the tough, unyielding sclerotic of middle life in the presence of uveal disease, presents the painful and destructive syndrome of increased

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

[1] Transactions American Ophthalmological Society.

tension of the globe. In such a view we at once grasp the dramatic significance of disease of this vascular membrane in the life history of the eye. Composed as it is of a meshwork of connective tissue, pigment epithelium and blood vessels with their accompanying lymph spaces, it is the nourishing coat of the eye. The wellbeing, therefore, of all the other tissues is either wholly or in a large measure dependent on the normal or healthful performance of its important function. Not only is this true of the different parts of the uveal tract itself, but it is peculiarly true of the avascular structures of the eye; *e. g.,* the vitreous body, the crystalline lens, and the cornea. I know of no more important or inspiring study to the thoughtful ophthalmic surgeon than the careful perusal of one or more of the later books devoted to the investigation by modern laboratory methods of the anatomy and histology of the human eye. The studies of the histologic anatomy of the ciliary body and ciliary processes and their relation to the zone of Zinn, the suspensory ligament, the anterior limiting membrane of the vitreous body, the scleral ring and root of the iris are especially important if one is to have a correct concept of the processes of disease of the uveal tract, or for the adoption of scientific procedures in their treatment. The zone of Zinn, and the suspensory ligament of the lens are not to be regarded as impervious, glass-like membranes, but as finely fibrillated structures and, therefore, pervious to the nutritive fluids from the choroid and ciliary region of the uvea, designed as they pass forward not only for the nourishment of the vitreous, lens and cornea, but into the anterior chamber for exit into the canal of Schlemm and the lymph spaces of the conjunctiva. From this anatomic and histologic arrangement it is obvious that any disturbance of these delicate and highly organized structures by disease of the uvea must be of signal importance as a disturbing factor in the nutrition of the eye. Then, too, it is highly probable that the nutritive fluids secreted by the uvea are changed in character when that membrane is subject to toxic inflammation.

There is probably no organ in the body more prone than the uvea, because of its highly vascular character, to participate in a large group of systemic disorders of the nutritional type, the toxemias and infections both general and focal. In a word, all the affections of the cardiovascular system, in which the kidneys are so uniformly involved, are, I think, quite as liable to have associated disease of the choroid. Not necessarily because of the nephritis, but for the reason that the choroid and retina, and the kidneys have in common become involved in the general disorder. In chronic rheumatism, gout, arthritis deformans, glycosuria, etc., with the phenomena of increased blood pressure, and arterial sclerosis, it is comparatively rare not to find associated disease of the retina and uveal tract.

The high arterial tension, the hypertrophied left ventricle, the chronic nephritis, and contracted kidney, the rigid arterial walls becoming atheromatous, apoplexies, angina, present a picture of serious systemic disease which the ophthalmologist, unfortunately, is all too frequently called on to witness, because of the associated ocular conditions. It is not reasonable to suppose that the blood vessel system of the eye would escape from participation in the disaster which has fallen with such serious consequences on the general vascular tree. Indeed, the ophthalmic surgeon is, not infrequently, the first to detect the insidious approach of the general disorder, since the dioptric system of the eye enables him to study the intra-ocular tissues under an enlargement of approximately fourteen diameters, and so affords a unique and favorable opportunity to study the pathologic change going on in living structures. It is under these conditions that he observes the veiling of the fundus details by edema of the retina and choroid in autotoxemia; the innumerable small apoplexies in hemorrhagic retinitis accompanying the later stages of nephritis, in perivasculitis and endartritis; conditions which so frequently culminate in increased tension of the globe or even in the violent and fatal syndrome of hemorrhagic glaucoma. Indeed, it not infrequently happens that these eye conditions are only the culmination of blood vessel change which has been insidiously progressing, *pari passu,* with that in the general blood vessel system.

This is not the time or place, indeed, before this section it is not necessary, to enter on the etiologic factors in the general or systemic disorders of the nutritional and toxic type. It is my wish only to urge the recognition of the important fact that the uveal tract of the eye may and usually does participate in the general misfortune. In a word, they must be considered as etiologic factors in choroidal disease. The ophthalmologist must first be a physician.

In addition to this important group must be considered the infections, rheumatism, syphilis and tuberculosis as etiologic factors which are always in evidence. Rheumatism and syphilis as the most frequent cause of iritis, iridocyclitis and iridochoroiditis we have long recognized; but I believe the signal importance of tuberculosis as a frequent cause of these inflammations of the uveal tract has not been adequately appreciated, certainly not until within comparatively recent years. Did time permit, a large amount of clinical material could be brought forward to emphasize its importance. Of late years, in rebellious cases of uveal disease at my Wills Hospital Clinic and in my private work, the von Pirquet test has been made as a routine procedure, in many instances causing not only local reaction but a rise of temperature. In a large percentage of these patients, recovery was so rapid under the subsequent injections of steadily ascending doses of old tuberculin as to excite one's enthusiasm.

For example, I relate the following case:

A large rosy cheeked Italian fruit dealer came to the clinic with violent pain from an acute increase of tension in the left eye. He was admitted to the wards and placed under treament until the subsidence of the acute attack. A peripheral iridectomy was then performed, which promptly relieved the tension and pain, but the convalescence was prolonged. The tension was normal but the eye remained red and uncomfortable, and vision did not improve. After two weeks, a gray, discreet deposit was discovered on the cornea in the anterior chamber near the temporal angle of the coloboma left by the iridectomy. It suggested a tubercular deposit. The von Pirquet test was made and was followed by marked reaction at the site of the test on his arm, and by marked local reaction in the eye, and a rise in temperature. When this subsided the eye began a rapid recovery. The usual injections of old tuberculin were administered under which the eye became white, the nest of deposit in the cornea disappeared and ophthalmoscopic study of the fundus became possible. There was a deeply cupped nerve and numerous splotches in his choroid, far forward in the ophthalmoscopic field, presumably the site of tubercular infections or deposits. It seemed probable that after the iridectomy the infection had passed through the coloboma into the anterior chamber and formed a nest of deposit on the cornea.

It is probable that in many instances the choroidal patches which are so characteristic of *choroiditis disseminata* are of this nature.

A lady, a private patient, who had suffered for a long time from ill health which baffled her physician, and who had received from me glasses correcting a refraction error, but at that time with entirely healthy eye grounds and normal acuity of vision in each eye. She came to the office a few months later in great alarm over the loss of vision in her right eye which came on, she said, during the preceding night. In the left eye V. = 6/v, but in the right it had fallen to 1/5. The ophthalmoscope revealed in the nasal fundus a large gray area of edema, the retina being pressed forward, and opaque, but at the center of the gray area at its most prominent point the electric ophthalmoscope showed a dense white spot. The tension of the ball was not increased. The von Pirquet test was made and proved positive causing very slight, if any, ocular reaction. The rising doses of old tuberculin led to a rapid subsidence of the infiltration and a marked improvement in her general health. Vision rose once more to 6/v, but at the site of the tubercular deposit in the eye ground there remained a patch of choroidal atrophy such as are so frequently seen in disseminated choroiditis. No other nodules or yellowish spots were discovered; it was not, therefore, of the miliary type which are more common especially in young children.

I have, in many cases of disseminated choroidal patches, with progressive loss of vision and pain in the eyes and head, seen the process arrested by the administration of old tuberculin. Tuberculosis must, therefore, be regarded as one of the more common causes of disease of the uveal tract. Coming under the same catagory are many cases of keratitis, which show grayish discreet nests of tubercular deposit on the membrane of Descemet, often near the angle of the anterior chamber, or nodules on the anterior surface of the iris. In this connection it should be borne in mind that the membrane of Descemet is embryonically the extension forward of the uveal tract.

To the ophthalmic surgeon these affections of the uvea, whatever may be their etiologic factors, are important, not only as local manifestations of disease, which it is our duty to treat, but because of their dire sequelae. Among these are (1) the handicap which comes with impaired acuity of vision, as in the myopic eye, from pathologic changes in the retina and choroid at the posterior pole, namely, in the macular region; (2) degeneration of the vitreous body and opacity in the posterior capsule of the lens, and of the lens cortex and nucleus; (3) iritis and iridocyclitis with adhesion to the anterior capsule of the lens and between the root of the iris, the anterior prism of the ciliary body and scleral roll; (4) increased tension of the globe as sequel to impaired drainage caused by these plastic adhesions.

In a word, we find in the pathologic affections of the uvea the *fons et origo* of the most serious forms of ocular disease with which we must contend.

When a young student of ophthalmology, I followed the teaching and example of my instructors in regarding opacity of the crystalline lens, particularly hard cataract, as one of the concomitants of old age in common with other senile changes. Patients with immature cataract were, therefore, advised of their misfortune, but encouraged to wait with such courage and patience as they could command until the cataracts were "ripe" when their vision would be restored by removing the opaque lens. After the importance of errors of refraction as an etiologic factor in asthenopia and pathologic changes in the *fundus oculi* had been demonstrated in the school examination and the subsequent experience based on the inductions from that investigation, I began to treat all patients with uveal disease with cycloplegics, and, where it was possible to do so, that is to say, if the opacity of the lens permitted, made careful records of fundus conditions, associated asthenopia, etc., and carefully corrected any existing error of refraction, and made a painstaking examination of systemic conditions. The patients were kept under observation by occasional return visits. Their comfort was often secured and vision improved. Finally, it became obvious that in many of these patients the opacity of the lens had not progressed; indeed, it was a rare exception for one of the patients so treated to return for extraction.

The case books were then appealed to for corroboration. Sixty cases were found in which the records were sufficiently full for analysis, and were made the basis of a paper on "Incipient Cataract—Its Etiology, Treatment and Prognosis."[2] The results were of signal importance and value. The analysis demonstrated the invariable association of these incipient opacities of the lens with uveal disease and that when this was successfully treated the opacity did not advance and the acuity of vision often improved, but in no instance were the spicules of opacity already present observed to disappear, although the opalescence and swelling of the lens habitually grew less. Since the publication of that paper, the sixty cases have been increased many times over, but the added experience has served only to emphasize the truth of the induction then made and stated in the following conclusions: "3. In the stage of incipiency, cataract is amenable to treatment by such measures as are calculated to remove the choroidal disease on which it depends. 4. These deductions being true, we are justified in giving a more hopeful prognosis to many persons, who apply for treatment, with incipient cataract. 5. If treatment fails to arrest the progressive degeneration of the lens, the eye will be in a better condition to submit to the trials of operative interference."

If these conclusions are accepted as true, then the designation *senile cataract* is a misnomer and, therefore, misleading. Furthermore, experience shows that aged people who have cataract are, after all is said, the rare exception. It is only a fair deduction that in these exceptional cases there must be some peculiar condition present to cause their cataract. It is the contention of this paper that the impaired health of the eye consequent on uveal disease had resulted in the opacity of the avascular lens through disturbance of its nutrition.

In the preceding remarks, allusion has been made to increased tension produced by the congested or inflamed choroid leading to distention of the globe in early life, resulting in the myopic eye. This distention in young eyes is not always, by any means, confined to the posterior pole as in cases of progressive myopia with posterior staphylomata at the temporal side of the optic nerve entrance. There is usually an increase in all the diameters of the ball as well as in the anteroposterior axis. The objective syndrome is interesting and important. In the presence of the uveal disease the long anterior ciliary vessels as they course over the sclera in the anterior ciliary region will be found engorged, a condition always suggesting uveal disease, and the sclera often obviously thin and distending. When the pupils are dilated the plane retinoscopic mirror will frequently reveal a granular ring concentric with the margin of the pupil or a granular cloud in the illuminated pupillary area which I regard as indicating the participation of the membrane of Descemet in the general uveal disease of the fundus, and indicates beginning impairment of nutrition of the cornea. The ophthalmoscope shows a fluffy fundus throughout the ophthalmoscopic field, veiling of all details. It is in these cases we observe changes in the corneal astigmatism, either an increase of the astigmatism or a change in the direction of the meridian. These conditions are not confined to the eyes which have passed into myopic refraction, and are comparatively rarely seen in mature adults, but are frequently present in young people suffering with asthenopia and portend increasing refraction. After prolonged use of a mydriatic and rest from near work, the fluffy fundus, the clouds in the cornea and the engorgement of the ciliary vessels disappear, while the asthenopia subsides.

In adults during middle life the uveal disease associated, as it quite invariably is, with systemic affections, presents for consideration a very different group of phenomena. The dilated or engorged ciliary vessels are present, there is failing central vision and contracting fields; the tension of the ball is increased. In the early stage of the disease there may or may not be acute or subacute inflammatory attacks attended by increased pain and dim vision with diminished sensibility, with slight steaminess of the cornea and well-marked increase of the tension. With or without treatment the attack usually subsides and both the objective and subjective symptoms disappear, but there usually remains some increased impairment of function in both the central vision and the fields. After an interval, the attack is sure to return if suitable treatment is neglected. The marked similarity of this history of recurring attacks to the history of recurrent iritis is obvious, barring the marked increased tension and contracting fields of vision which characterize the glaucomatous eye. As in recurrent iritis the succeeding attacks leave additional posterior synechia at the pupillary margins, so in glaucoma the attacks leave adhesions between the root or periphery of the iris to the anterior prism of the ciliary body and the scleral ring. I have had many opportunities to demonstrate these adhesions in eyes which have come to the laboratory for study ofter enucleation. Indeed, they are quite constantly present in all the eyes where increased tension had been an important feature in the recorded clinical history. In recurrent iritis an iridectomy when accompanied by suitable systemic treatment arrests the disease; so in these cases of increased tension with adhesions at the root of the iris the recurring attacks are arrested by the same surgical procedure, namely, a peripheral iridectomy. It is the cutting free of these adhesions through a considerable arc at the base of the coloboma in a properly performed broad peripheral iridectomy that gives that procedure its greater value than trephining which is quite valueless in the majority of cases unless accompanied by iridectomy, and this in any case can only be a very narrow one, thus freeing the adhesion in a very limited arc. It was partly on these considerations that I ventured to predict that the employment of the trephine did not meet the requirements as efficiently as a technically correct iridectomy. The theory promulgated for the trephining operation is that it establishes a permanent drainage and thus relieves the tension of the globe. But if we accept the thesis that the increased tension is a sequel of uveal disease it is obvious that the mere fact of drainage will not arrest the degenerative processes going on in the eye. I have seen many examples which seem to buttress the truth of this statement. In brief, the etiologic factors, systemic and local, underlying the uveal disease must be sought for and treated.

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[2] Presented in the Section on Ophthalmology, 42d annual meeting of American Medical Association, Washington, D. C., May, 1891.

Increased tension of the globe assumes at once a wider significance when regarded as a symptom and sequel of disease affecting the choroidal tract and must modify in many important respects the views underlying our treatment. The term "glaucoma" falls from its place as an entity in our catalogue of ocular diseases and must be regarded by the ophthalmic surgeon as only "a convenient appellation" for an important characteristic symptom of ocular disease, but not the disease itself. The acceptance of this view has for many years modified my own concept of glaucoma and controlled my management of eyes with increased tension. The failure to recognize its etiologic significance has doubtless led to the early adoption of surgical interference at a stage of the disease when other measures should have been first employed. By way of illustration, attention may be called again to the great value of iridectomy in the treatment of chronic recurrent iritis, but no experienced surgeon would think of adopting this valuable surgical procedure during an acute exacerbation. The same consideration should be the guide to treatment in those cases of uveal disease with a cataractous lens or in which the increased tension of the globe is the dominant symptom. In short, it is obvious that the underlying etiologic factors, both local and general, should be considered, and as far as possible removed by treatment before the adoption of any surgical procedure. The failure to do this affords sufficient explanation for the unfortunate sequelae so frequently following either iridectomy or any of the more recently devised operations for the relief of increased tension. Notwithstanding the extensively published experience with these modern procedures, I am not convinced that the mere fact that permanent drainage has been secured through an opening at the sclerocorneal limbus is a cure for the diseased condition of the globe culminating in increased tension.

In no other form of ocular disease, inflammatory in character, has the ophthalmic surgeon been so prone to undertake operative procedure as in inflammatory glaucoma. This has seemed to be justified by the rapidly fatal results to vision if relief of high tension were delayed.

But if the contention of this paper is true, the early recognition of the essential nature of the disease and the adoption of suitable methods of treatment will, in the vast majority of cases, prevent the violent culmination we all know so well.

It is a well known fact that a very large percentage of the patients with transient attacks of the symptom complex, designated as *"glaucoma imminens,"* who apply for treatment, are relieved by the instillation of miotics, especially eserin, and that operative measures are not required, if at the same time suitable attention is given to the underlying etiologic factors usually found in general systemic states. Many examples could be brought forward in which under treatment the fellow eye recovered without operation which had proved necessary to the other.

The problem to be solved, however, is a very different one, if the disease has advanced, either through neglect or in spite of treatment, to a stage where permanent pathologic changes in the intraocular membranes have impaired the nutritive functions of these membranes and the drainage channels of the globe have been more or less permanently blocked by connective tissue formation; when the ciliary body is undergoing atrophy and the contracting adhesions have dragged the root of the iris backward and in contact with the scleral ring. We are then, in my judgment, no longer justified in trusting to the influence of miotics. When we come to consider the physiologic properties of the most efficient of the miotics, the physostigmin or eserin, it will be seen why this statement is true.

In answer to an inquiry, "How or why does eserin relieve intraocular tension?" I recall two experiences which have afforded, to me at least, a satisfactory explanation. A young woman with a leukomatous cornea and a blind eye came to the clinic complaining of pain; the old leukoma, which had been for years entirely white and free from irritation, was vascular, the ball tender to palpation and with increased tension. A solution of eserin was instilled; and at the close of the clinic hour the blood vessels in the white cornea were no longer visible except with the loup, the pain had disappeared and the tension was normal. A short time after, a young man presented himself for treatment, giving a vague history of discomfort, occasional attacks of redness in one eye. Inspection showed an arborescent arrangement of blood vessels over the anterior surface of the entire iris. Having in mind the speedy disappearance of the blood vessels after the instillation of eserin in the case narrated above, eserin was instilled and the patient received a solution to be used at home. On his return the following day the vessels were no longer visible to the unaided eye. The effect of the eserin in these two cases was ascribed to its influence over the muscle fibers in the walls of the blood vessels.

At that time, and even now, there is much confusion over the physiologic properties of this drug, but all experiments seem to agree that the well known rise in blood pressure after the administration of eserin is brought about by the stimulation of the muscular coat of the arterioles; that physostigmin increases the irritability of both striped and unstriped muscles, even causing tetanoid contractions, the effect apparently being due to the stimulation of the peripheral nerve endings. Local applications, it is claimed, cause marked contraction of the pupil by stimulating the peripheral endings of the ocular motor nerve and probably also the iris muscle itself, and causing the spasm of the accommodation by acting similarly on the ciliary muscle.

Now, if these observations are correct, eserin is useful in the conditions which have been described as characteristic of the glaucomatous eye by contracting the uniformly dilated ciliary vessels in all of their ramifications in the iris and ciliary region. In this manner the hyperemia would be reduced, the secretion diminished and the general turgescence of the swollen ciliary body and ciliary muscle relieved. The instillation of solutions of suitable strength frequently repeated should, therefore, reasoning *a priori,* be of great service in the premonitory stages of increased tension and should hold in check the pathologic processes which culminate in increased tension of the ball. The mistake of using too strong solutions of eserin is often made. It should never cause pain, as this is an indication of muscular spasm or cramp; weak solutions frequently repeated are more useful and are often of great value in the treatment of iritic and ciliary inflammations in alternation with the mydriatics. But where permanent changes have already occurred, while its use in some measure may retard the progress, it is obvious it cannot remove or permanently arrest the baneful influence of the permanent pathologic changes at the root of the iris at the scleral ring. The effect of these contracting adhesions between the anterior prism of the ciliary body, the root of the iris and scleral ring is analogous to the irritating influence of synechia between the capsule and iris after the extraction of cataract, or anterior synechia after perforating ulcer of the cornea and, in certain cases, of iritic adhesions. It is a common experience that such eyes remain irritable and show a tendency to recurring attacks of inflammation, which subside after the release of the adhesion.

In like manner the tendency to irritation and recurring attacks of increased tension will not permanently subside until the contracting bands of adhesion between the ciliary body at the scleral ring and root of the iris are released. To accomplish this design I know of no procedure which will release these bands through so considerable an arc of the periphery of the iris as a correctly performed broad iridectomy. It is open to question whether the securing of a drainage wound is correct in principle. Iridectomy, however, should not be undertaken until by suitable local and general treatment the acute inflammatory manifestations have subsided, and this treatment after iridectomy should be continued until the uveal disease has disappeared.

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DISCUSSION

Dr. William Zentmayer, Philadelphia: When Dr. Risley honored me by asking me to open the discussion on his paper I gladly accepted because I saw it would afford me the privilege of adding my testimony to the debt we owe Dr. Risley for the several contributions which he has made at different times on the part played by the uveal tract in pathologic conditions in other structures of the eye and of the peculiar susceptibility of this membrane to general and local toxins. As Dr. Risley emphasizes, an ophthalmologist must first be a physician, and it is because he has kept this ever in mind that he has been able to see this problem in the broad light presented in his paper.

As to the pathogenesis of progressive myopia, while I am willing to admit that the uveal tract is involved in the process, I have always felt that in at least some of these cases a structural weakness or an acquired inflammation of the sclerotic coat was the underlying cause.

We must all agree with Dr. Risley that only recently, and still not fully, has the importance of tuberculosis as a cause of various types of choroidal inflammation been recognized. As pointed out not only is disseminated choroiditis at times due to tubercular toxins but I believe probably most of the cases of exudative retino-choroiditis characterized by a single patch of greenish or yellowish white exudate, fine vitreous opacities and large mutton-fat deposits on the membrane of Descemet are of this origin.

That long-continued congestion of the choroid resulting from eyestrain and systemic causes may bring about changes in the anterior extension of the uvea, resulting in the characteristic adhesion of the base of the iris to the posterior surface of the cornea, I think no one will deny; still this is but one of the factors in the causation of glaucoma and we must look to structural peculiarities such as a relatively large lens in a hyperopic eye, to sclerotizing processes in the blood vessels, pectinate ligament and sclera itself to explain other cases.

The importance of focal infection to the uveal tract is shown by the fact that among the case histories of 10,000 private patients collected by Lang were 215 instances of ocular inflammation in which oral sepsis was traced as a cause. The iris was affected 87 times, the ciliary body 79 times and the choroid 65 times. Worth estimates that in more than one half of his cases of iridocyclitis sepsis was the cause, and also Sutler, Irons and Brown, and still more recently Beyer, found that in 40 per cent. of their cases of uveal inflammation the cause was a focal infection. deSchweinitz reports one case of persistent and one of relapsing uveitis due to abscessed teeth. I have seen one case of exudative choroiditis with vitreous opacities and deposits on Descemet's membrane due to an abscessed upper incisor tooth.

If I may be permitted to quote from a recent paper by myself, uveitis is the type of ocular inflammation which most often is attributed to focal infection. But the structures here involved are those which are particularly susceptible to the toxemia of the *Bacillus tuberculosis* and the *Spirochaeta pallida;* and, as Marple has stated, there are no distinguishing peculiarities about focal infections. As was emphasized by Axenfeld, tuberculosis is most difficult to exclude. Therefore to prove a case of uveitis due to focal infection other causes must if possible be eliminated and even in the presence of possible focal sources of infection it must be demonstrated that treatment directed toward their removal failed, whereas the removal of the supposed source of infection alone brought cure.

With Dr. Risley I early gave expression to doubt as to the wisdom of treating all cases of a disease of such an undoubted protean origin as glaucoma by a single method, be it by drilling a hole in the coats of the eye, making an iridectomy or relying on miotics. Too little has heretofore been said of the nutritive action, if I may so term it, of the miotics in their beneficent effect in glaucoma, it being often assumed that their value depends solely on the contraction of the pupil. Dr. Risley has, however, graphically exemplified its physiologic action in the citation of a clinical case.

We come now to one of the most important contentions of Dr. Risley, that "the impaired health of the eye consequent on uveal disease has resulted in the opacity of the avascular lens through disturbance of its nutrition."

No one will deny the importance of a healthy uvea in the nourishment of the lens and that the maintenance of a normal choroid by the removal of factors which influence its blood supply, such as the congestion which results from eyestrain is of importance in forestalling the development of cataract. As Dr. Risley contends senile cataract is not a necessary concomitant of age. It is no more a physiologic process than are the other degenerative processes of senility.

Hess believes that the theory that senile cataract is connected with disturbances in the general system has more in its favor than the explanation that it is due to shrinkage of the nucleus. That alterations in the nutrition of the lens do not satisfactorily explain the occurrence of cataract is emphasized by Romer, who points out that lenses remain perfectly clear for months when placed in oil, and that Leber has shown that the lens needs additional nourishment to maintain its growth and that even in old age this increment would not be wanting.

There is much in Romer's claim that senile cataract is a toxic metabolic disease of the lens—that the lens contains receptors which have a specific affinity for specific antibodies.

Dr. Aaron Brav, Philadelphia: I am here as a man constituting a concrete example to illustrate what Dr. Risley has been trying to preach. That is, with reference to some focal disease being the cause of uveal disease. About a year ago while going home I suddenly saw a rainbow around the electric light. I was somewhat disturbed about it and the next morning I went in to see the nearest ophthalmologist. He could see no reason for this; there were no pupillary changes and no changes in the optic nerve. I tried to convince myself that it was due to the handling of cocain carelessly. It did not satisfy my fear, however, and I used a mild solution of eserin for a couple of days and it disappeared. I changed my glasses and did not have any trouble for about six months. Last January it happened again and this time I not only saw the halo but a dense bluish smoke and vision was reduced to about five-ninths; normally my vision is five-fourths. After consultation with an oculist (the tension was up about 45), he advised me to come again the next day without using any medicine. The next day he was kind enough to discuss with me the advisability of an operation, whether an iridectomy or Elliot operation. For some reason I chose the iridectomy. Then he suggested a consultation. He gave me two or three names and I selected Dr. Risley. Dr. Risley thought I had a very high tension, but he did not think it was a primary glaucomatous condition. Dr. Risley prescribed for me and I followed out his treatment, except Glauber's salts which I have taken on my own account. I had pictures taken of my teeth. Dr. Risley said he suggested it at the time, and I found an alveolar abscess. I went to a dentist and he refused to pull that tooth that day. He cleaned it out and that evening after the treatment the halo had entirely disappeared. The next day I was free from any annoyance. Somehow or another I considered that a tooth is not as valuable as an eye. I went to the dentist and he removed the tooth. That was nine months ago and I have had no treatment since then. My vision today is five-fourths.

Dr. Edward B. Heckel, Pittsburgh: I simply want to emphasize what Dr. Zentmayer has said in the opening of his discussion. Dr. Risley has done enough for ophthalmology if he has only called attention to the uveal tract. Focal infections produce considerable trouble in this structure of the eye. It is a common observation to see eyes that have been injured in the region of the ciliary body that during a course of months or years after the lens becomes opaque and develops a secondary cataract and there is no doubt it is concerned with the nutrition of the eye.

Dr. Risley said in closing that there were several things alluded to in the discussion, which he had treated more or less fully in the paper, but which the time limit had not permitted him to read. Among these was the use of eserin, to which he wished to call particular attention especially as to the circumstances under which he considered it valuable, and other conditions under which he thought we could not safely depend on it. In prolonged uveal disease resulting in increased tension of the globe, he had found in the laboratory, when eyes had come to enucleation, that adhesions had formed between the anterior part of the ciliary body, the scleral ring and the root of the iris. In such cases the use of eserin or other myotics were not to be depended on; but operative interference was to be instituted as the only trustworthy curative measure. As to the relative value of the trephining operations and iridectomy he very much preferred the latter for the reason that a broad peripheral iridectomy, correctly performed, cut through these adhesions and restored drainage at the angle of the anterior chamber through a much larger arc than could be secured by the trephining even when accompanied by the narrow iridectomy possible from the trephine opening. He thought that the now almost universally adopted iridectomy as a valuable addition to the trephining demonstrated the importance of the iridectomy, and in his judgment the broad iridectomy made possible by the keratome was a much more trustworthy procedure.

Then, too, he said that since the increased tension of the ball was to be regarded as a sequel to uveal disease, the mere fact of securing drainage was theoretically faulty and could not be expected to cure, or even relieve the general uveitis. This required, as had been elaborated in the paper, not only local treatment by the continued use of weak solutions of the myotics, especially eserin, but a careful study and treatment of the etiologic factors, both toxic and infectious found in systemic disease. He had on several occasions ventured to state the conclusion, that trephining alone in the treatment of increased tension of the ball unless accompanied by a very satisfactory iridectomy, would very soon find its way into the dust-bin of historic surgery.

CORNEAL CORPUSCULAR ACTIVITY (THIRD PAPER)

A STUDY OF THE WHITE CORPUSCLE FROM OBSERVATION OF ITS CIRCULATION THROUGH THE CORNEA *

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The classification of the so-called varieties of the leukocyte by pathologists into eosinophiles, myelocytes, lymphocytes, polymorphonuclear neutrophiles, mast cells and other subdivisions relate mainly to variety of form only. The large lymphocyte differs from the myelocyte only in that the former has a nongranular protoplasm and pathologists admit that this granulation requires such fine discernment that the conscientious observer is many times in doubt as to its identity. The polymorphonuclear neutrophiles are identical with the myelocyte, except[1] that, at some point of their nucleus, there is an indication of a slight indentation and this indentation is sometimes found in both. The whole classification is largely a matter of personal equation and pathologists concede that all of the different varieties may be only transitional degrees of development of the white corpuscle.

Investigation of pathologists has been practically confined to the endeavor to discover or invent special function for each variety. Minowski states that all of the varieties of the white corpuscle have the same chemical base.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

[1] American Textbook of Pathology.

If we accept the theory of chemotaxis, it is difficult to understand varied function with an unvarying base. Form characteristics can mean nothing and tend only to confuse. For this reason, and because the writer believes that they all have the same function, classification will not be considered. In looking at the blood, in a larger way, it consists of the red blood corpuscle, the white corpuscle and the plasma. The red corpuscle is a true blood corpuscle because it is a fixed blood constituent. Its function is confined within the blood vessels and it dies when it leaves them, as it is evidenced in bruses, blackened eyes or any extravasation of blood into cellular tissue. Its principal function is that of any oxygen bearer. It is entirely dependent on the heart action for propulsion, as it is incapable of individual movement. Its function and circulation is confined strictly to the blood channels. The white corpuscle is a cell entity unto itself. Ameboid, it leaves the circulation when and where it will. It is avocative. Its work and function is wherever toxins may call it. Many things indicate that it is not a fixed constituent of the blood. That it is independent of the blood stream and that its true function is outside of the circulatory system, which it, in all probability, invades only as a means for its immediate needs—a place to wash up in, releasing its alexins; a place to rest up in, free from attacking bacilli, and as a method of free transportation on the pulse wave to the capillaries.

If we accept the theory of chemotaxis which is generally conceded, it is only logical that we assume: (1) that after the white corpuscle has been chemically attracted to the toxin and appropriated it to saturation, its chemical base is altered; (2) that with its altered base, its chemical affinity for the toxin is cut off and it is automatically released or even repelled; (3) that the white corpuscle is most susceptible to toxin attraction immediately after it makes its exit through the capillaries, from the blood stream, in which it has released its toxins.

In 1891 the writer described to a number of colleagues, a phenomenon of vision which two years later Bowditch briefly described and classified as the retinal circulation. In a paper in 1894, and later in an address on ophthalmology before the Medical Society of the State of Pennsylvania, I gave a detailed description of the phenomenon under the title of "Corneal Corpuscular Activity," and classified it as the circulation of leukocytes in the lymph channels of the cornea. The theory that it is the retinal circulation is untenable, because the red corpuscle is not associated in this phenomenon, because the movement of these bodies is independent of their media and because they cross and recross the central field of vision, which contains no capillaries in which to circulate. The phenomenon in question may be readily observed by looking through a frosted glass towards reflected sunlight; it consists of bright moving bodies, filling the field of vision. They may appear in groups of two or three, but generally are single and, when grouped, they travel more slowly. They are independent of each other and their media. The fact that the cornea contains no blood vessels accounts for the nonappearance of the red corpuscle. The interlacing lymph canals of the cornea form the courses which resemble the capillary system. Men supporting the former theory have written me that they were constrained to agree with me that it was confined to the cornea alone.

Pathologists speak of the white corpuscle, when found outside of the blood channels, as a scattering of wandering leukocytes which implies that they are few in number and, because they are not in the blood stream, they are out of their element. Repeated observation and study of their circulation through the cornea has suggested to me that it is possible and very probable that the white corpuscle's true function, normally, is outside of the blood stream, and that the number outside of the blood stream is much greater than is generally supposed. In the cornea, for instance, there is approximately 100 of these moving bodies constantly visible throughout the field, and it is quite reasonable to suppose there are as many more not visible. Personally, I am convinced that these bodies comprise all of the so-called varieties of the white corpuscle. I have noted a variation in size, appearance and movement. Of course, such a distinction is purely a psychic interpretation and is incapable of demonstration. Each observer of this phenomenon of corpuscular activity in the cornea, must form his own conclusions. Naturally interpretation will vary, but I am convinced that those who make frequent observations will agree with me that they are not confined to any one variety. The duration of their individual transit across the field of vision is less than a second, which means a circulation of 360,000 per hour, or 8,640,000 white corpuscles pass through a given visible point in the lymphatic system in twenty-four hours.

Several things seems to indicate that the number of leukocytes normally in the blood vessels represent but a half, or possibly but a third, of the number found within the body as a whole. The great fluctuation of the number of leukocytes in the blood stream, under certain condiiris and the circulus arteriosus minor surrounds its pupillary margin. This blood supply which seems to be excessive is further amplified by its wide distribution. While the white corpuscle makes its exit from the circulatory system at any place it may select, in normal conditions without exciting cause, their usual principal mode of exit is through the capillaries. In this amplification of blood distribution we may see, aside from sustenance, an arrangement to facilitate the migration of white leukocytes direct from the circulatory system, freed of their alexins and susceptible to the slightest toxins direct into the lymph canals of the nonvascular portion of the eye. In this way the white corpuscle, in its circulation through the cornea, prevents malnutrition. The bactericidal action of the lymph is greater than that of the venous blood, which in turn is greater than the arterial blood. The lymph, therefore, normally has not sufficient toxicity to attract a white corpuscle which has been on duty, and organs of special sense of sight would logically require the close proximity of capillaries, wherein susceptible, white corpuscles released of their alexins and with a clean base would respond to the feeble toxicity of its lymph channels.

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DISCUSSION

Dr. Burton Chance, Philadelphia: The origin, form, composition and function of the leukocyte are still subjects of dispute. We dare not enter into such disputations here at this time.

In all justice to Dr. Willetts and in full appreciation of his entertaining account of his observation, it would seem that in the present state of his knowledge he ought to present the thesis to the pathologic physiologists for an extended study by every means at their command.

Looking forward to the days when the now invisible world shall be more and more seen, we are justified in maintaining that the estimation of the powers of the human eye is not complete, yet it is all but inconceivable that the unaided eye can perceive elements within its own structure, which elements, under other conditions, require for their recognition highly magnifying instruments and complicated means for the appreciation of their surgical differentiation. At this stage of his investigation it is to be regretted that Dr. Willetts has not been able to arrive at a point where the objects might be fixed and capable of approximately similar delineation by others. It would be of great value were it possible for him to project the images he sees so that accurate description might be made of them, and a demonstration of such an entopic phenomenon might be given. I have repeatedly observed shadowy images while using the ophthalmoscope, as well as when seeking for them recently with the frosted glass, but so far several of my confreres to whom I have submitted the essay have not been able to satisfy me with the result of their efforts to see the images.

Note by Dr. Willetts—Furnished Jan. 8, 1919, for publication: My object in taking up the pathologico-physiologic aspect of this subject was the hope that through its publication some pathologist might become sufficiently interested to observe for himself this phenomenon of corpuscular activity, and study it along the lines of his own interpretation, with the knowledge and by means which no oculist commands.

I cannot agree with Dr. Chance in maintaining that our present estimation of the powers of the human eye is not complete. To my mind the invisible world which may be discerned in the future will be made visible only by the disintegration of matter, through the application of inventions external to the eye, such as, for instance, the roentgen ray.

That the bones of the hands become visible through the flesh, when we look at them through the fluoroscope, is not because of any increase of our present visual acuity. To my mind physiologic sight will always be confined to the present limitations as we know them.

Why the eye is able to discern white corpuscles, when they are in the structure of the cornea, without a microscope, and requires a microscope to discern them when they are outside of the eye, I am not prepared to say. The fact remains that we do see this phenomenon of corpuscular activity, constantly, and that it is not outside the eye. Shadow images, as seen through the ophthalmoscope, due to altered cells in the vitreous, become more prominent when looking through the frosted glass or at snow or any white surface. These semi-opaque images which are likely to detract the attention of the observer do not in any way bear the slightest resemblance to the phenomenon of corpuscular activity, and must be ignored, before the myriads of glistening, pin-point corpuscles engage the entire field of vision.

The members of the society who looked for and saw the phenomenon described are Drs. Stieren, Klinedinst, Krebs, Miller, Douthett and others.

THE FOOT OF THE AMERICAN SOLDIER AND ITS CARE *

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A study of the foot problem in the European armies showed that about 10 per cent. of all inefficients were due to foot conditions. The American government, benefiting by the experiences of those who had previously prepared for war, decided to try for elimination of this 10 per cent. by giving special attention to the feet from the beginning of military training. The solution of the problem was left to the orthopedic surgeons and a plan of work was formulated.

It was early recognized that the conditions met with in the Army are at total variance with those in civil life, and while a foot with poten-

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

tions, indicates greater numbers on the outside, which can be summoned to the blood stream in cases of emergency. Allison's experimental work with rabbits has proved that the streptococci in the blood stream were killed by the injection of arsphenamin (arsenobenzol) and that the arsenical compounds have a bactericidal action *in vitro* and that they are preferable to the antistreptococcic serums in that they do not destroy the bactericidal cell and are, therefore, less liable to cause the sudden liberation of the intracellular toxins into the blood stream.

Dr. Harold A. Miller of Pittsburgh, on the strength of Allison's experiments, reports the treatment of nine cases of puerperal fever with arsphenamin with uneventful and rapid recovery. The temperature falling form 105 to normal, in twenty-four hours. In these nine cases of puerperal septicemia reported by Miller, the blood count, prior to the injection, was about 12,000, but shortly after the injection of arsphenamin, after the streptococci were destroyed, the leukocytosis within twenty-four hours doubled and, in some cases, nearly trebled, reaching 32,000. It is not logical to expect that this vast augmentation of leukocytes was newly manufactured in so short a time to meet the emergency, but that the reserve supply of leukocytes outside of the blood channels is sufficiently large to meet any demand from sudden abnormal amount of débris, through the sudden destruction of the streptococci in the blood stream. It also points to the fact that the white corpuscle is not attracted or does not attack the fully developed live bacilli, but only dead micco-organisms and their toxins or their spores. The chemical attraction of the dead micro-organism in the blood stream becomes dominant and white corpuscles outside of the blood channels, which failed to attack the live streptococci, now appear in trebled numbers to remove the débris. If an animal, immunized to cholera, be killed at the time when the exudate shows only spores, there is a greater leukocytosis of the omentum than later when the bacilli are fully developed.

The low number of leukocytes in the blood stream, when the live streptococci are present, indicate that the white corpuscle does not attack live bacilli, that it is not phagocytic, nor is it in any way influenced by live bacilli, regardless of their type, but instead attacks the products of destruction emanating from their attack on tissue. The zone of leukocytosis surrounding a local infection, such as an abscess, indicates that they keep a respectful distance from the live bacilli, their efforts being confined to the isolation and neutralization of the toxins emanating from the destruction of tissue. Many white corpuscles are necessarily crowded beyond the line of resistance and are destroyed by the bacilli. In no instance has an incised abscess been found free from live streptococci, and these selfsame streptococci, in all probability, are the identical streptococci which were the original cause of the infection prior to suppuration. Logical interpretation of this zone of leukocytosis around infected areas is that it is an attempt to confine toxins emanating from the products of destroyed tissue, to the immediate area attacked and to immunized unaffected tissue outside of the zone. That the tissue outside of the zone of leukocytosis is immunized, is demonstrated in the operation for hypopyon following corneal abscess. The knife enters a pus cavity and, pus ladened, forced through the cornea on the opposite side; the pus rolls out over the incised area with no infection of the corneal flap. How many of us would take this same knife, which produced no infection in this immunized cornea and, without sterilization, do an extraction on another patient's eye?

Minowski has found the same nucleinic acid in all the white corpuscles, though combined with different extraneous substances. Pus cells, as well as bone marrow and occasionally a live micro-organism, have been found in their nucleus. But why should importance be attached to these extraneous substances, when we know that the white corpuscle exercises its function in pus, microbic and marrow areas? If any extraneous substance be found in the nucleus of a polymorphonuclear neutrophile or in the nucleus of an eosinophile, it certainly is not positive proof that the function of that particular variety of leukocyte is confined to the disintegration of that particular substance. A live bacillus in the nucleus of a white corpuscle is no evidence that the white corpuscle is phagocytic. If it was phagocytic the live bacillus would not be there. Is it not more logical to assume that they simply are accidental excess burdens, which the leukocyte saturated with toxins after its attack was unable to throw off or disintegrate? Aside from its tunics, the iris and ciliary body, the eye is a nonvascular organ. The cornea, aqueous, lens and vitreous are lymph sustained. Nonvascular bodies sustained by lymph receive an increased blood supply to adjacent tissue and this blood supply is distributed over as wide an area as possible in the form of multiple plexuses of arterial capillaries.

In the eye, the margin of the cornea is surrounded by a plexus of capillaries from the conjunctival and scleral vessels. The circulus arteriosus major surrounds the periphery of the tial weakness may prove equal to civil demands, it will fail utterly under military use. Drill and work keep a soldier on his feet for from eight to twelve hours a day, and usually he carries a pack or gun, or both, during this work. His play is intensive and every move of the training process is designed to eliminate the weak spots and parts. Whether this obtains through the strengthening of the part to a point equal to the demands or by breaking it down, depends on the fiber of the man himself.

Inspection of the feet of every man inducted into the service was begun and carried out as rapidly as was consistent with thoroughness. Many extremely interesting conditions were found and valuable observations made. It was first found that about 25 per cent. of the feet of those accepted for service were posturally weak. That is, that the weight of the body was not carried directly through the center of the ankle joint, and that the foot tended to twist outward (abduct). This was due to a number of different causes, such as muscle weakness, improper shoes, improper method of standing and walking, short heel tendons, etc. There were also observed corns, "ingrowing nails," horn nails, callosities under the ball of the foot, overriding toes, hallux valgus and bunions, hammer toes, amputated toes, claw toes and numerous other conditions which are potential for disability. The state of the foot arch was most varied and most interesting. A diagnosis of flat feet was very commonly offered by the soldier when the condition was simply one of "cold feet." There were high arched, medium and low arched feet met with, some with symptoms and some without. The actual number of really flat feet was extremely small, amounting to only about 3 per cent. The strongest feet were those with a rather low arch, and the history usually was that the soldier came from a section of the country where he went barefooted a great part of the time and his feet developed a low arch, but their lines were straight and there was no abduction of the forefoot as is always seen in the true flat foot. It is a type of foot which would be called "flat" by the vast majority of medical men, and if the sole were blacked and an imprint made, the bearing surface would be broad and extensive, showing practically no hollow under the arch, but still it is not a flat foot. It constitutes one of the most powerful feet that are encountered and gives no trouble from training and hard work. The high arched foot, on the other hand, while looked on as a mark of aristocracy and a thing of beauty, is the poorest from the standpoint of the heavy demands on the soldier. There is insufficient weight bearing surface, lack of elasticity, poor stability and if there is any muscle weakness it is sure to develop strain and disability. If, too, relaxation of the arch once begins, total disability will result by reason of the inability to give needed support until the weak muscles can be built up.

At the foot inspections, all factors of potential weakness are noted and recommendations made for their correction. If the feet are pronated, the inner border of the sole and heel of the shoe is raised; if the heel tendon is short the heel itself is raised to take off the strain; if the transverse arch is weak or lost, it is supported by a small leather pad attached inside the shoe or a bar across the sole of the shoe, back of the weight-bearing area; and any other alterations needed to restore proper balance are promptly made.

It was very quickly recognized that by far the greater number of disabling conditions in the feet were of mechanical character. That is, there was interference with the proper function of the various parts of the foot by reason of improper posture, improper shoes or some anatomic abnormality (like the short heel tendon), or there was something wrong with the coverings of the foot (the socks or shoes). It was also quickly ascertained that if these mechanical defects, of whatsoever character they might be, could be corrected early in the period of training, the foot disability would be prevented. Accordingly after the careful examination of the feet and the recognition of the factors for weakness or inefficiency, attention was turned to the shoes.

The type of shoe to be worn by the soldier was designed and first used in 1912, after very elaborate and careful investigations. The success of that work is proven by the fact that the shoe fits 98 per cent. of the men who enter the army and can be made to fit 99 per cent. The important point about the shoe is that it must be fitted correctly. It should be noted that, under training, the soldier's foot grows longer broader and thicker, and in four months after entering the service, one is seldom able to wear the shoe he wore in civil life and sometimes cannot even put it on. These profound changes come from increase in size of intrinsic muscles, thickening and strengthening of soft structures and the settling of the foot arch to the position of greatest strength, under the constant hard usage in training. The shoe, therefore, must be properly fitted to the foot to allow of these changes. The rule is that the shoe shall be two sizes longer than the foot and shall be roomy enough to allow two pairs of socks to be worn. It must also be remembered that a shoe always stretches sidewise, but never lengthwise, and even if it should be a little tight it will stretch, but will never grow longer. There must be about two-thirds of an inch (corresponding to the two sizes) between the end of the toes and the end of the shoe. It is ofttimes difficult to persuade a soldier as to these facts and if he is fitted with a shoe that is long enough, he will sometimes trade with another for a shorter pair and continue trading until he is suited, not fitted. Then when trouble develops, he will either burn his shoes, so as to draw a new pair, or lie about the original fitting. The problems in this respect are many and at times very perplexing.

The shoes also must receive proper care. The leather must be kept soft with oil. When wet they must be dried carefully and the best place to dry them is near the ceiling of the barracks, or the peak of the tent, as the air is drier and warmer near the top. The oil must be applied when the leather is damp and should be well rubbed in with the hands. This guards against blistering of the feet and also keeps out water.

The socks must also be looked after. If too short they cramp the toes and prove extremely uncomfortable. They should also be worn inside out, because of the smoother finish on the outside as compared with the inside. They are worn for comfort, not for looks. If holes appear, a new sock is indicated, but if the shoes are long enough, it is surprising how long a sock may be worn before a hole appears.

In regard to the care of the feet, the soldier and his officers are taught to take every precaution against disability. If a shoe hurts the foot, he must report it; if a blister forms, it must be properly treated; after a hike, the feet must be bathed and dried and dusted with powder or oiled; nails must be properly trimmed and, if there is a tendency to "ingrowing," they must be cared for; exercises to strengthen weak muscles are given; proper posture in standing and proper methods of walking are taught and, in fact, everything is done that will promote foot health and efficiency. Chiropodists have been inducted into the service and enlisted men are being trained for work under the supervision of the orthopedic surgeon and are rendering efficient aid in caring for corns, bunions, callosities, horn nails and such conditions. One most striking fact, however, is seen after wearing the army shoe. I have examined several thousand men when they first entered the service, and again five or six months after wearing the army shoe, and the change in the feet was remarkable. Corns had disappeared, bunions ceased to be painful, crooked toes tended to straighten out, "ingrown nails" (due most frequently to short shoes) gave no trouble; the foot presented an appearance of health commensurate with the work it had to do. These results constantly follow the wearing of the proper shoes and illustrate more than anything else, the mechanical origin of almost all foot disabilities.

What then will be the effect on the nation of this experience on the part of between 3,000,000 and 5,000,000 of its robust and able-bodied men? In the first place, these men are developing mentally to a marvelous degree. They are having experiences in training and in relations with all classes and conditions, whose influence is incapable of measurement; mentally, morally and physically they are developing and it is by leaps and bounds. When they first come into the camp, there are examples of ignorance that are appalling in their grossness, but one month later that soldier is unrecognizable. One can ask, will he be content to return to his little old home town or farm and live as he did before? And the answer is patent to all. It will be impossible. He will probably remain in the town, or on the farm, but will take up life on a totally different plane from that occupied before. Here, then, is where the influence of such a small thing as the army shoe is going to be felt. The soldier has been told of the importance of foot health. He has been instructed as to proper foot wear, proper care of the feet and their coverings, proper manner of walking and, above all, how to safeguard his feet against mechanical disturbances. He has also had actual experience in comfort and discomfort as it exists in the shoe of civil life and of military life. One of the common remarks of both officers and men is "I will never go back to civilian shoes again. The army shoe for me after this war is over."

Necessarily the demand will be met by the manufacturers and when civilians realize the ease and comfort which follow the wearing of the army shoe, these faultily designed and wretchedly-shaped shoes will give way to shoes constructed on the lines of the human foot. These influences will be disseminated by the returned soldiers who will prove a potent factor in shaping the policies of their communities along many different lines.

The province for us, as physicians, is to anticipate this result and spread the propaganda for better and more sanitary footwear. Teach your patients and your community the essentials of foot health. Counteract the malevolent idea that prevails of the high heel and pointed toe shoe which cramps the feet, alters weight-bearing proportions and compels function in an abnormal position and manner. It is taking the costume of the drawing room, reception and ballroom out on to the street. That type of shoe was never designed for work, and the warped mental attitude which compels so many people to use it wrongly must be changed by a healthy sentiment based on everyday knowledge of physiology and anatomy, and now verified beyond question by our vast war experience.

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DISCUSSION

Major R. Tunstall Taylor, M. C., U. S. Army (Baltimore, Md.): (By invitation, presenting a group of films made under the direction of the Surgeon-General illustrating an additional means provided in the Surgeon-General's Office for teaching.) Up to the present war we have had the vast Surgeon-General's Library, which has been of tremendous use to us, and where you can get any book published in any language within thirty to sixty days after that book appears. That has been of great service. In addition to that there has been the Army Medical Museum where every new thing that comes out in medicine is stored. In these two departments we have a treasure house, which the medical profession of this country has appreciated very decidedly. With the beginning of this war and the necessity of instructing a large number of men, the question of teaching in an intensive way, to visualize what we are talking about, necessitated that some form of illustration must be at hand. We debated for a long time how to bring this about, whether by chart, lantern slides, or in what manner. The question of lantern slides had to go by the board, because with the extent of the country, scattered cantonments, etc., it was found that these would get broken in shipment or would be disarranged. Finally it was decided that the best plan was to have the subjects made in the form of moving picture film. Up to last December there was not a good photographic lens in the possession of the Medical Department of the War Department. We had to begin at the beginning and, fortunately, in the selective service there were some of the best artists and moving picture men in the country; these were used by the Medical Department, so far as we could get ahead of the Signal Corps and the needs of the Aeroplane Service, which also now have some excellent men. The first efforts were very amateurish, as, of course, we had to feel our way, having the moving pictures made where we could. The Department of Agriculture would occasionally drop its work and let the doctors have a whack and then the Signal Corps would help us out. So there was more or less hodge podge about our early efforts. Now we have as good a moving picture laboratory as there is in the country, and any standard medical procedure or fact or method endorsed by the medical profession can be reproduced in film form in this country for the Library of the Surgeon-General's Office, if it is proven that the need for it exists.

All the work we are doing now is more or less standardized by the war manuals which the office issues. What I will show you first constitutes abstracts of the first three chapters of War Manual No. 4. In extenso these cover some eleven reels of film and I have boiled them down into two films to show you some of the essentials of these three lectures. This lecture shows you that, like a racing stable, Uncle Sam likes to keep the legs of his chargers in good condition, and the thing to do in the soldiers, as in the child, is to teach them how to walk before they can run. We find that a great many men walk and stand improperly and in postures that tend to induce an undue strain on the muscles and consequently this will eventually fall on the arch of the foot. These films were made for the medical and line officers and enlisted men, so that they might know what we are trying to get at. Of course, the type of a good marching soldier is usually considered the West Pointer and this picture shows some of the men at West Point marching. The company commanders see to the condition of the feet of the men and it is up to them to make frequent inspections to see that the feet and legs are in good order. This photograph is the Seventh Regiment of New York. This illustration will show you the ligaments of the foot. Now if the muscles are overstretched, the full weight of the body comes on these ligaments and the pulling of the attachments of these ligaments on the periosteum causes pain as the nerve supply there is very great. This shows the plantar fascia. This drawing is a copy from General Munson's work showing the three layers of ligaments that he calls "the bow strings of the arch."

We found that a great many men were tearing ligaments of ankle and knee in doing trench jumping and we found it important to show the men that they should not land on the inelastic heel which would likely cause a torn ligament, but to land on the ball of the foot so that they would have balancing muscular action to prevent tearing of the ligament. This shows the normal weight-bearing line passing through the patella, the crest of the skin, the ankle joint and coming between the second and third toe. This shows the proper standing position in the nude, which is very important to know in order to avoid undue strain and stress on the ligaments at the arch.

Any abduction of the foot or eversion tends to throw undue strain on these structures. The men have to be trained, especially those who heeded their parents' "Johnny, turn your toes out," and we say, "Johnny, turn your toes in," or "at least have your feet parallel in standing." If the soldier is in the habit of having his feet much everted as he starts to take his stride, the weight comes on the inner edge of the foot instead of the outer. We now show two soldiers, one with a 50-pound pack and the other without the pack. This man has a tendency to pronation anyway in the foot and it is important to strengthen the responsible weak muscles. Here is an improper way of standing. The weight comes down the line from the hip joint to the inner side of the arch. Here is a soldier walking with his toes turned out. You see the exaggeration of the pronation and we have a potential condition which is liable to lead to flat foot. Flat foot is a bad term, as a general rule, because a man may have cosmetically flat foot and perfect function. On the other hand, he may have a perfect looking foot and a great deal of foot strain, especially if marching is done a great deal with the foot everted. Here are three postures: Foot eversion and pronation and, if the shoe is pointed and not straight from heel to toe on the inside, we will have abduction. Here is the type of the trooper who, from walking badly and from improper shoes, has everything that could be the matter with the feet. He has hammer toe, callosities, broken down transverse and anteroposterior arches, etc. Hallux valgus is quite common with a great many who have worn improper shoes. Here is a roentgen ray showing an exostosis and bursa.

Here is an army shoe which is adapted for flexibility and based on anatomic shape of the foot. In this we have the angle of 25 to 35 degrees which occurs at the metatarsal joint normally in the relation of the axis of the os calsis to the ball of the great toe. If abduction occurs in the forefoot we have a decided tendency to pronation and to breaking down of the arch. Abduction occurs when the angle is less than 25 degrees. This is the type of trench shoe that Colonel Rugh has passed around showing the absence of box at toe and the smooth interior surface. Here are four types of shoes worn in civilian life, the worst type being "the toothpick shoe." Here is shown the Munson army shoe. Here is a smoked impression of the normal foot. These are what Whitman calls "shoemaker-made feet," *i. e.*, feet distorted by shoes. This type is what ladies wear, resulting frequently in broken-down transverse and anteroposterior arches. Here is the general order which was formerly often overlooked. In the early part of the war it was almost ignored. Now it is carried out to the letter. A man would come in for shoes (men very much more often are vainer than women) and they would almost always ask for a size too small. These men are now measured most accurately with the weight-bearing entirely on the foot to be measured, and with the 50-pound pack on the back. We next show how the circumferential measurement is taken similarly. The length is taken with the foot measure and two is added to that to determine the size of shoe required. This is especially important in the Army because the soldier frequently in winter has to wear two pairs of socks and in the trench he may have to wear two and three pairs and no pressure must be exerted on the toes for fear of injury. Here is the chart for sizes: a man measuring 6½ requires an 8½ shoe. Then we take the circumferential measurement and if, for example, we find it 9¼ inches, it shows on the chart that it calls for a D last.

Foot inspection is very important in the Army and it depends on exigencies of warfare as to the frequency with which it shall be made. This is the standard foot inspection of the recruit: first we must investigate the thorough flexibility of the toes which is so important in the stride. As a man strides forward he must have flexible toes, especially the great toe. In the propulsion it is important that he should have downward flexion, or plantar flexion of the toes. Next the metatarsal and ankle joints are examined. Here we see the soldier showing the flexibility of the metatarsal joint; next we must look for the flexibility of the ankle joint; then the ability to stand and hop on one or both feet.

This everted position is assumed and the examiner tries to see whether any evidence of mediotarsal joint trouble is present, pointing to foot strain; tenderness from spurs on heel, blisters, callus on the ball of the foot, tenderness over the tendo-Achillis from heel rub.

In the standard exercises to strengthen the foot and leg muscles the films show that the heels should be the same distance apart as the toes. The patient stands on a table or board and flexes the toes over the edge some fifty times, then he steps back and dorsally flexes his toes in order to strengthen the flexor and extensor muscles. Then he tries to separate his toes to strengthen the abductors. He then puts his weight on the outer edge of the foot and flexes his toes toward those of the other foot. This exercise is given for the flexors and to strengthen the tibialis anticus, chiefly to pull the arch up. An exercise which is considered one of the most important of all in the Surgeon-General's Office is brought about by the gluteus maximus, front thigh and leg muscles. The feet must be parallel; the great toe must be kept firmly in contact with the ground and thighs rotated outward. It is rather difficult to do the first time, but it is a wonderful exercise to strengthen the muscular power holding up the arch.

The raising up of the shoe heel constitutes an important part in relieving foot strain. If we have a sprained ankle and an external lateral ligament of ankle joint is involved, we must raise the outside of the heel.

This picture shows the standardized method of strapping the sprained ankle. Six strips of adhesive, 1 inch wide, are taken; three of the six are 18 inches long and three 12 inches. The patient holds the foot in pronated position, *i. e.*, the outer edge of the foot is raised. One of the 18-inch strips is applied to the internal malleolus, passes under the foot over the strained external lateral ligament and is carried in the upward direction in the region of the front of the calf of the leg. The foot is held everted by the second strip, which passes around the back of the heel at right angles to the first to outer side of little toe. The third strip is put on overlapping the first by perhaps half an inch, and the fourth strip is put on as was the second. And so we have the fifth strip applied as was the third and then the sixth as was the fourth. It is very important that the bandage in sprains of tendons and ligaments should be put on in such a way as to hold the torn fragments as close together as possible to relieve tension. In the case of a sprained ankle the bandage must run across the sole of the foot from within outward to tilt up the outer side of the foot to relieve the tension.

In making these films it has been necessary to have doctors agree on standards and that in itself is a thing which from time immemorial has been considered impossible, but in most of these instances they have gotten together and considered a certain thing a standard.

The subject of "flat foot plates" is one which is nation-wide in doing harm. It is generally considered that the use of arch supports is a hindrance rather than a help. If a person has a weak biceps muscle and wanted to strengthen it he would go to a gymnasium, he would not have a plaster cast put on. If a person were a great piano player he would take finger exercises and not have a steel plate strapped with leather to the hand. So in the soles of the feet, where the muscles are almost identical with the muscles of the hand, if we want to increase power we do not want to hamper it with a steel splint. The shoe must adduct the forefoot to lift the arch. If the foot is not flexible enough to permit this adduction, the patient must be taken off the feet and operated on to restore flexibility and adduction. Every so-called "arch support" in the shops is concave on the outside, convex on the inside, which must abduct the front of the foot, just exactly what we do not want. During the preparation of this film a prominent shoe manufacturer told me that in many stores clerks deliberately sold an extra large shoe to customers in order that they might call attention to the need of an "arch support," which sale yielded a better profit than the shoe sale.

In regard to the value of the moving picture as a method of teaching by statistics, 75,000 students, divided into three groups, showed the following results: One group was given didactic lectures alone; the second was given pictures alone, and the third group was given lectures plus pictures. The men who had lectures plus the pictures visualized the subject and they made an average of 85 per cent. on examination; those with pictures alone, 50 per cent., and those who had lectures alone, 35 per cent., three months after the lectures were given. This points clearly to the permanent value of being able to visualize what the lecturer is endeavoring to impart.

Major E. W. Ryerson, M. C., U. S. Army: In this paper there are several very interesting points of great importance. The first is the enormous amount of damage done to the feet of our population by improperly shaped and constructed shoes. The chief objection to the modern shoe has been very well shown in the moving pictures. It is a fact that instead of the inner border of the shoe being straight it is abducted so that the big toe is pushed to the outer side. It tends to make the arch sag inward and instead of the foot being straight it is made convex on its inner surface, the arch is strained and later progressively damaged in many cases.

The second important point about the shape of the shoe is that the small toes are so confined and jammed together that they cannot perform their proper function. The toes have an important part in locomotion, in walking. They give us the spring and push which we cannot do without if we are to do heavy work with our feet. Most of the civilian shoes are pointed and narrowed to such an extent that the toes are compressed, so that each toe leaves an imprint on the adjacent toe and if you look at them particularly you will see that the toes fit into each other like sardines in a can. They cannot act separately to push the weight ahead as we walk. For that reason the ingenious exercises have been devised which are fitting men for the duties of military life. Most of the feet that are confined by these civilian shoes will do the work in a way, as long as we live in cities and do not do a great deal of walking, but when we begin to carry a 40, 57 or 60-pound pack, and a 10½ pound rifle, conditions are different, and a foot which will serve in civil life usually will last for a very short time in the Army. It, therefore, is a campaign of education that the Army is carrying on and it is the commonest thing in our camps to hear officers and men say that they will never again return to the pointed or civilian last. It is a very important thing and we are just beginning to find out its great importance.

Another thing, which has troubled us greatly in the camps, is the ability to tell whether or not a given pair of feet will stand the strain of army life and it is only fair to say that no man alive can examine 500 or 1,000 men in a day and predict with perfect accuracy whether or not those feet will stand the strain of army life. We can do it in the vast majority of cases, but not in all.

Another point is that very many of the cases of foot trouble are due to "cold feet." If a man wants to go out and work in the Army it is surprising to find how much work some men can do with very poor feet. If he falls out of line of march he is sent to the infirmary and from there to an orthopedic surgeon to see if something can be done for his feet, but it is a cause for great congratulation to our Army that these cases are every day growing fewer. After the soldier has been in the Army a short time and wants to go to France, his feet begin to get a whole lot better.

I have been out in the West for a number of months. Among the white people, mostly farmers, following the plow and doing lots of daily work, we found much better feet than among the clerks and civilians. The worst class we had to deal with was the Southern negro. We have had a large draft of negroes from Mississippi and Louisiana, who present the usual foot condition, a marked degree of flat foot, and it is surprising to see how many of these men can do as much marching as people with good looking arches. It is also true that it is a little more difficult to teach these rather indolent, mentally undeveloped people to use their feet properly; perhaps the same incentive is not present as in the whites. That is being taken care of in all the camps; and with the exercises and everyone trying to do his best we are making a great deal more headway than I had previously believed was possible.

Capt. Roades Fayerweather, M. C., U. S. Army: It might be interesting to hear about one curious difficulty that we encounter in the Expeditionary Force in the matter of feet. It was a great disappointment to me as a member of the surgical board of a base hospital to have to send home several of the fittest physical specimens I had ever seen, merely because of the oversize of their feet. These men had nothing the matter with them physically. Their only trouble, as members of the Army, was that they could not be fitted with the army shoe, and were, therefore, clogs in the machinery. I remember half a dozen men who could not be fitted. According to instructions from headquarters we were obliged to send all such cases back to the United States.

Dr. William J. Wilkinson, Sellersville: I understood Colonel Rugh to state that all shoes were made of a size that the soldiers could wear two pairs of stockings. My experience in testing feet of those who wear large shoes has been that there is more or less trouble with the feet floating around. Then, again, where there are so many stockings on the foot, it seems to me it would induce sweating, one of the problems we have to deal with in civil life.

Lieutenant-Colonel Rugh, closing: There are a couple of points I want to answer. We have been directed to fit these shoes over two pair of socks because of the weather conditions abroad. The men require the extra socks in France. The other point is that the weight of the shoe is very much better tolerated by the foot with an extra sock for padding than with but one sock. So far as sweating is concerned, they are practically free from that, but where it is present we use formalin. I have found in all the camp work that formalin is practically specific. A

1 to 5 per cent. solution should be applied every other day or every day, according to what the skin will stand.

These shoes must be fitted large so as to allow for two pairs of socks. The real point is in the fitting of the shoe, and it must be long enough. The length must be tested with the man standing and preferably with 40 pounds of weight on the back. Remember when the weight comes on the foot, the arch sinks down, and toward the end of the day the foot is always longer than in the morning. We must make allowance for this. The shoe must be large enough to allow free action of muscle structures so that they may develop. The muscles in the foot are responsible for the support of the arch, and if they are tied up as in civil life with a tightly fitting short shoe, they cannot act. Some of the most remarkable transformations are seen after three to five months training by reason of the greater play of all the structures of the foot. There is better action on the part of the muscles, and the way in which these disabling conditions (corns, overlapping toes, etc.) disappear, is little short of miraculous. Another little point: The size of the shoes in stock by the Army ranges from 5 A to 12 EE and the size which is mostly used is about 8½ D, but we are able to fit between these ranges. Anything outside of that must be made to order.

BONE AND JOINT CASUALTIES AND THE TRANSPORT SPLINTS *

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The serious battle casualties show a very large percentage of bone and joint injuries variously estimated as low as thirty per hundred and as high as sixty.

In any serious engagement, we may expect nearly one-half of the severe injuries to involve the bones and joints and, among these, the phenomenon of shock is very common. They become, therefore, of great importance, and the problem of the transport of the wounded from the battlefield to the evacuation hospital where they receive their first thorough surgical overhauling, demands energy and wisdom in its solution. It may seem worth while on this account to discuss with you today some of the factors which enter into this problem and to attempt to describe some of the methods which are being employed with our expeditionary forces in the handling of these types of wounds.

Our own experience with battle casualties began in the spring of 1915, when as a member of the Harvard Unit we took over a service at the American Ambulance in Neuilly, just outside the walls of Paris.

We were receiving wounded at this time twenty-four to forty-eight hours after the injuries were received. Usually only the more severe cases were sent to Paris.

The Medical Department of the French Army in these early days had not reached its present high grade of efficiency. The stretcher bearers were as brave and as gentle as they are today, but methods of early transport were much more crude. Hospital trains were much fewer. It became almost an axiom with us that even in the presence of any but the most serious infections, and they were all infected, a period of warmth and rest and sleep made the wounded man's chance of recovery better than an immediate operation. Six deaths in a three months' service of over two hundred beds was a creditable record then and would be even in these days.

Shock is of first concern and infection is a close second. Perhaps the most common cause of shock is trauma. Infection feeds first on traumatized tissue. Transport must always add trauma to trauma already existing, and it becomes the first duty of the surgeon to lessen this trauma by every possible means. Proper splinting materially lessens it; therefore, proper splinting becomes of first concern.

The first troops to go overseas in the present war were the base hospital units organized originally under the American Red Cross by Gen. Jefferson R. Keane. It was a pleasant surprise to the British to find, when their medical department through General Goodwin, now the Director General of the Medical Department of the United Kingdom, asked for six American base hospital units to serve in British general hospitals in France, that the first unit was ready to sail in ten days and all the others only a few days later.

Our second experience was with one of these units well behind the line, but receiving its cases directly from the British casualty clearing stations, which correspond to the French and our own evacuation hospitals. We had opportunity also to watch these cases as they were received in the advanced dressing stations, and to follow them through the field ambulances, and casualty clearing stations. Later on we saw them in England, after they had left the general hospitals and everywhere the importance of transport was emphasized.

Practically all the wounds were infected with the exception of the through-and-through bullet wounds and a few joint cases received soon after injury, and the wounds closed at once after they had been cleaned and washed out and the foreign bodies had been removed at the

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

casualty clearing station. In certain instances, there had been an attempt to close large flesh wounds and a few fractures, but the results, as we saw them in the general hospital, made us feel that this procedure was usually unsuccessful and always hazardous. By more careful organization of the transport and by moving the best surgical skill up to the evacuation hospitals, so well equipped and commodious that patients may remain for weeks if necessary, it has been demonstrated by Le Maitre and others that successful early closure is not only possible in a very large percentage of cases, but must be the method of choice. This represents nothing less than a revolution in war surgery. Good splinting makes the chances of obtaining successful early closures much better in all bone and joint wounds.

ESSENTIALS OF A GOOD SPLINT SYSTEM

Let us consider the essentials of an efficient splinting system:

1. The first essential in good splinting for transport is the comfort of the wounded man. If the splint gives him ease from his wound pain and does not add another discomfort, the first requisite is met.

2. The splints must also fulfil the mechanical purposes for which they are applied.

3. The design of the splints must be simple and their weight light, in order that they may be manufactured in large quantities and be easily transported far up the line to the battalion aid posts.

4. For fractures of the long bones and certain joint injuries it is extremely desirable that they embody the two principles of fixation and traction: Fixation, to protect the injuried structures and to retain proper alignment after the alignment has been secured; traction, to bring about muscular relaxation with the object of diminishing pain by inhibiting involuntary contraction which also results in malposition. Traction also assures proper alignment by a pull in the direction of normal anatomical lines. It is in itself a method of immobilization and prevents the displacement of bony fragments and the consequent laceration of nerve, muscular and vascular tissue. To be practical for transport, this traction must be integral. That is, it must obtain its tension by having one end of the splint placed against a fixed point from which it cannot slip, *e. g.*, the groin or axilla, while the counter-point to which the extension bands are fastened is the notched end of the splint itself.

5. Ideally the transport splint should be a sufficiently accurate mechanical device to be used as a permanent splint and safe to be relied on to bring about a satisfactory end result, if other, more complicated methods are not available.

STANDARDIZATION FOR UNITED STATES ARMY

Impressed with the importance of a standardization of the splints to be furnished to our Army, and fortified by an experience in the care of these bone and joint cases, the matter was called to the attention of the chief surgeon, A. E. F., General Bradley, and at his suggestion a splint board was at once appointed by General Pershing.

The board agreed on types of splints embodying the principles which we have outlined. They were directed to write a manual of splints and appliances for the Medical Department of the United States Army Expeditionary Forces. This was ready for free distribution to all medical officers overseas in November, 1917. The expense of publication was borne by the American Red Cross in Paris. The manufacture of these splints in large quantities was begun before the manual was published, and represented another service of the Red Cross to the government. The supply has been adequate and the quality uniformly good. From the central storehouse in Paris they are sent to the various medical supply depots and thence distributed to the front and to hospitals as is necessary. The Red Cross has organized a repair shop nearer the line, and an exchange system has been worked out between ambulances and hospitals, so that, in a measure, the supply system takes care of itself.

In the combat divisions, three specialties are represented, the genito-urinary, the psychiatric and orthopedic. To the latter division has been assigned the task of seeing that the splints were properly applied as near the front as possible. This has entailed constant precombat drills of regimental surgeons and stretcher bearers and the arranging of a constant adequate supply. This work has been splendidly done by Lieut.-Col. Nathaniel Allison, who was assigned the task by Colonel Goldthwaite, senior consultant in orthopedic surgery. We are getting our splints on earlier, I believe, than in any of the other armies, even in certain instances in No Man's Land, and they are correctly and efficiently applied. This means continuous and courageous attention, and deserves the greatest credit. In all the divisions where it has been possible to give the training and to carry out this supervision of bone and joint cases, the wounded are reaching the evacuation hospitals in excellent condition and the task of the surgeon is made easier.

We have only touched on the early surgical treatment of joint injuries in this paper. It is impossible in the limits set to do more. A few words must be said as to the after-treatment of joint injuries.

If the early treatment of joint injuries has been carried out along the lines we have outlined, after-treatment is vastly simplified. In fact, after-treatment, as the term is generally understood, may almost be said to become unnecessary. The return of function after successful early closure is surprisingly rapid and complete.

We must be prepared, however, to face the problems of unsuccessful early treatment and of treatment which has been delayed to such an extent as to make early closure impossible. For this after-treatment of joints which have become partially or completely stiffened in positions of deformity, a specially equipped orthopedic hospital or section of a hospital and well-qualified orthopedic surgeons must be provided.

In cases of complete bony or fibrous ankylosis in a position of deformity, or in a position in which function is seriously impaired, operations of some sort and at some time must be undertaken. If the joint has been the seat of a serious infection, it is usually unsafe to undertake considerable operative procedures for from six months to a year after the subsidence of the sepsis. Judgment as to when these surgical attempts are safe is always difficult. Massage more or less violent may serve as a guide. If, after such a massage, a definite recrudescence of the cardinal signs of inflammation occur it is usually unsafe. The absence of this reaction is suggestive of sufficient quiescence to make operation possible.

FORM CF OPERATION

The choice of operation must be made in each case, various considerations influencing the decision. The first determination is as to whether mobility or ankylosis in a favorable position for function is to be sought.

Mobility.—Restoration of perfect mobile function is, in our opinion, rarely possible in these cases. We are aware of the reports of individual cases and even of small series of cases, but we have observed so many failures and experienced them ourselves and have seen so few satisfactory results that we believe arthroplastic attempts should be made only in selected joints and then only after a thorough discussion with the patient as to chances of success.

Our personal belief is that only the hip and the elbow should be attempted, the hip more rarely than the elbow. The methods of arthroplasty have been sufficiently described. We believe that both the denuded surfaces should be covered by an absorbable nonirritative membrane. As Allison and Brooks have shown, free or pedicle fascial flaps are not to be advised. We believe fixation should immediately follow the operation and attempts at motion for at least two weeks should be discouraged.

Ankylosis in a Position Favorable for Function.—The great majority of the cases, in which decision between attempts at mobility or ankylosis in a favorable position must be made, occur in war surgery among working men whose wage earning capacity must be the controlling factor in this decision. It is a matter of constant surprise to find how little disturbance of wage-earning capacity is caused by a completely stiff joint in a favorable position for his trade. Generally speaking, the shoulder should be fixed in 50 to 80 degrees abduction; the single elbow at from 80 to 100 degrees of flexion. Where both elbows are ankylosed, one at 70 to 80 degrees, the other at 100 to 110 degrees, offers the best function. The wrist should be in full dorsal flexion. The hip should be fixed in 5 to 10 degrees abduction, 5 to 10 degrees outward rotation and 10 to 20 degrees of flexion. The knee should be fixed with varying degrees of flexion up to 45 degrees, depending on the occupation. The ankle gives best function in right angle dorsal flexion, with perhaps a little equinus to allow for the heel of the shoe. We are inclined to believe that in the vast majority of cases, excepting possibly the elbow joint, ankylosis in a favorable position will be the operation of choice in war surgery, in case of terminal joint deformity.

Partially Ankylosed Joints With or Without Deformity.—The problem here is the restoration of as large a range of mobility as possible. In joints which have been the seat of an infection, great gentleness of manipulation is the rule to be followed almost without exception. "Brisement forcé" under an anesthetic is rarely successful in gaining greater range of motion and often provocative of a lighting up of the old infection. It is to be thoroughly discouraged. Light massage, mechanotherapy, hydrotherapy are the first procedures, accompanied by gentle passive movements and the stimulation of the patient, to carry out active movements. These latter are by far the most important. Between these treatments, apparatus is often of great advantage, both that which retains motion gained in the direction desired and that which by elastic pulls constantly exerts gentle traction in the appropriate lines.

CURATIVE WORKSHOPS

Stimulation of the patient's interest in his cure must be sought in every way. Recovery is gradual and often seems to the patient slow and tedious.

If his endeavor to gain motion is coupled with the stimulation of a definite occupation, which accomplishes a purpose of some sort, time passes more quickly, motion increases automatically and almost unconsciously. The effect of these curative workshops on the general morale of an institution filled with chronic patients is very striking and very beneficial. They should undoubtedly be installed as a part of every orthopedic war hospital for the treatment of chronic joint injuries and deformities. Agricultural labor may well be combined with these workshops and the product of these helpful labors of the patients made to lessen the cost of upkeep.

Tailoring, carpentry, leather working, brace making, printing, net and basket making, farming and floriculture are all easily adapted occupations and in the reconstruction hospitals of Great Britain and France have demonstrated their great value. Fortunately the Division of Physical Reconstruction is providing these shops in our hospitals. When a patient is made to realize that he is no longer a derelict but, properly directed, can in certain trades compete successfully with the best, the burden of his discouragement is lifted and he strives the harder to overcome his physical handicap.

The splints adopted will be mentioned and shown in inverse order of their importance followed by a movie film illustrating their application, which Major Taylor has prepared and is kind enough to demonstrate.

Two of the splints selected are those devised by Hugh Owen Thomas of Liverpool, fifty years ago. He may be called the father of these principles of fixation and integral traction. Two of the remaining five are the designs of Major-Gen. Sir Robert Jones, Thomas' nephew and great successor, now inspector of special surgery of Great Britain.

Adaptations of these splints have been made to facilitate transport, but the underlying principles remain the same. It is a pleasure to acknowledge the debt we owe to these British masters of human mechanics.

DISCUSSION

Major R. Tunstall Taylor, M. C., U. S. Army (Baltimore, Md.): (Presenting a set of films illustrating splints* used by the United States and Allies.) The first splint is the "cock-up" for the wrist. It can be bent to fit any size arm. It is used for "wrist drop" which so often follows musculospiral injury. The film shows the method of application to the arm which can be made fast either by bandage or adhesive. It is equally applicable to either arm. It maintains the hand in a position of hyperextension. This next is the "wire-ladder splinting," which is so useful for splinting in the leg, for coaptation, or making into the "cock-up" for the hand or can be cut in any desired length in general fixative dressings.

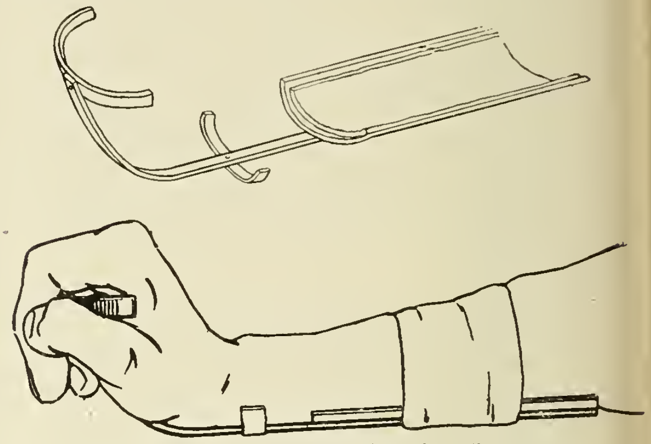

Fig. 1.—Jones "cock-up" or "crab" wrist splint.

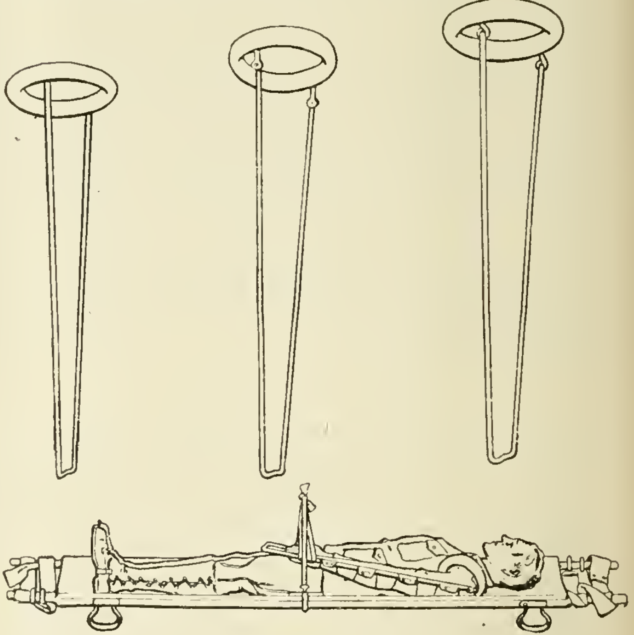

Fig. 2.—Thomas Traction arm splint and hinged modification for transport.

This picture shows the "Thomas traction arm splint." The orderly makes traction while the preliminary bandage is applied. A "clove hitch" is applied around the wrist to avoid undue pressure. The clove hitch is the means by which we make temporary traction on the arm for steadying the arm during transport. The splint is applied well up in the axilla, but traction is not to be too tight. Traction is made to steady and partially to immobilize the parts and approximate fractures. The ends of the clove hitch are carried around the notched bottom of this splint and tied, a stick is inserted for twisting the bandage and increasing traction. This is called the "Spanish windlass." A bandage is then passed across the vertical uprights under the forearm and the arm, to act as a sling support to steady the parts and render the patient more comfortable. In order to show this pictorially the arm is not abducted as much as it is in reality in the application of this splint. If traction is too tight, the surgeon loosens the Spanish windlass so that the arm can go on the stretcher comfortably, the stretcher bar is then applied in these cases and the Thomas arm splint is suspended from it by bandages so that it will be jolted as little as possible. This picture shows the application of the clove hitch in three stages. Here are thrown the detailed drawings of the mode of application.

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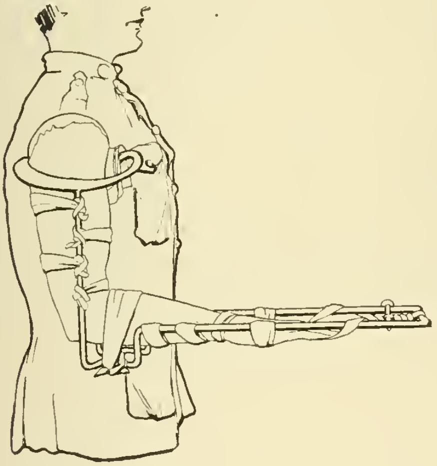
* The illustrations of the splints referred to are reproduced by courtesy of the Journal of the American Medical Association.



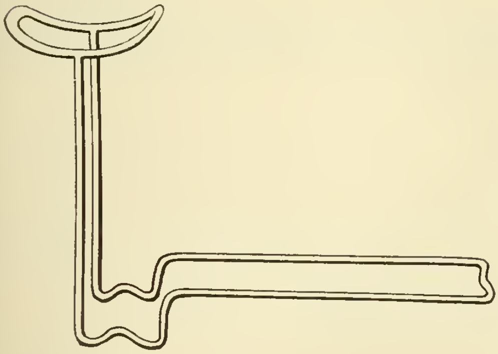


Fig. 3.—Jones humerus traction splint. The American pattern of the splint is here illustrated. By changing the pattern of the axillary crutch the splint is made adaptable to either side of the body. By slightly lengthening the forearm piece, traction on the forearm may be obtained.

Now we come to the "Jones rectangular elbow splint" and show the details of its application. The pad fits the axilla. Bandage fixation is made on the upper part of the forearm so that traction downward on the lower part of the humerus may be made from the horizontal rods and the advantage of cross bandages on the front of the arm from the vertical rods will make backward traction on these fragments and help immobilize the parts. Then the clove hitch is put on and the Spanish windlass just as in the previous splint. By these a forward pull is put on the forearm. Here are shown the axillary pads. Here are the anterior bandages and posterior bandages. A man treated thus will be shocked as little as possible during transport. So much for the treatment of war fractures of the upper extremity.

We now present pictures showing the application of the leg splints. The first one of these splints is the "Cabot splint," a quadrilateral wire leg frame which cannot be bandaged until just before its application on account of the bandage getting disarranged. Some have objected to it on this account. This is supplemented by the wire ladder splinting for coaptation, which we have already shown. Here is the Cabot wire splint before the bandage is applied. The bandage is wrapped around the two vertical rods to make the trough in which the leg rests. The top is a concave rod covered with rubber tubing or leather to fit the upper part of the thigh. We will now show its application. You will note the foot part is at right angles to the leg part and holds the foot out at right angles to the leg, supplemented by lateral wire splinting before the man is put on the stretcher for transport. It affords fixation and coaptation of the fragments. The wire splinting is not shown for the reason that we did not want to detract attention from the Cabot splint itself.

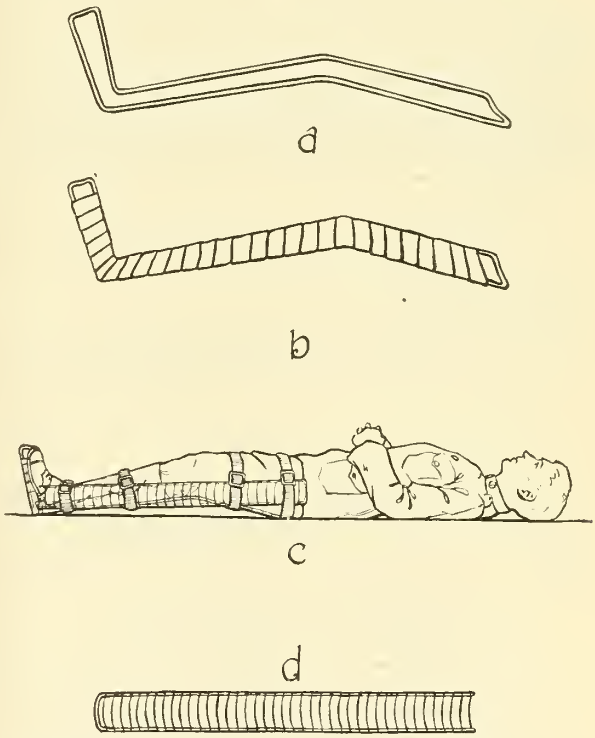


Fig. 4.—Cabot posterior wire splint (*a*) in skeleton. (*b*) bandaged, (*c*) applied with side splints of ladder material; (*d*) ladder splint material.

The next splint shown is the most important of all in preventing shock from thigh fractures, the Thomas leg splint. The thigh ring is slipped over the leg so that the vertical bars are lateral. The clove hitch is applied to the ankle in a way similar to the way it is applied to the upper extremity to the wrist. The orderly makes traction to give the patient comfort. The surgeon splits the trousers; they may be used as a posterior support to the thigh by safety-pinning to the lateral uprights. The wound is dressed in the ordinary manner with the application of iodin and gauze. Ordinarily the fragments are to be supported by another orderly to prevent pain and motion while the splint is being applied. The Spanish windlass is utilized here again. The traction bandage is made fast to the notch in the bottom of the splint. The supporting bandages are put under the calf and the trousers are pinned to the side of the side bars. The stretcher bar is put on and slung by bandages on all three sides from it to relieve jolting. Here is a clove hitch application in detail and also the Spanish windlass. Cross bandages under the lower leg show the immobilization and fixation. Now the pictures will show how the upper part is applied. This shows the way the stretcher bar is applied and the leg is slung by bandages laterally and vertically in order to prevent jarring during transport.

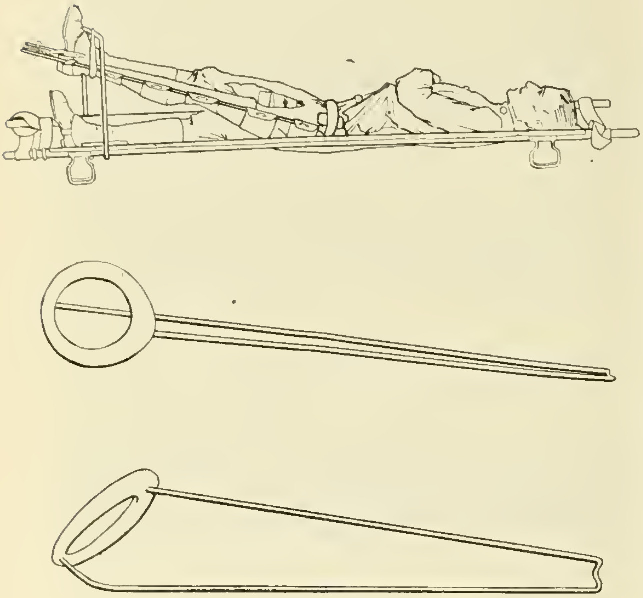


Fig. 5.—Thomas Traction leg splint.

The straight bed slat splint is not so much used now. The surgeon here tries it and discards it for the Liston splint. In this it is adjusted at the rectangular foot piece for length and bandages are passed around the body, pelvis, waist, thigh and leg, and then around the shoulders to keep it up in position, and preferably passed over the shoulder of the opposite side. Here is shown on the film a detailed drawing of the Liston splint and its application. This splint is rarely used however.

As a preliminary instruction to medical officers not familiar in civic practice with these types of braces, the moving pictures are helping in military orthopedic training.

Capt. Roades Fayerweather, M. C., U. S. Army: Colonel Osgood has emphasized the importance of splinting. I think this is a point which cannot be emphasized too much. It is the first form of specialized treatment that the soldier with a bad fracture receives, and he receives it frequently very soon, if not immediately, after his injury. You can realize of what vast importance is the matter of splinting and when you consider that this treatment must be applied frequently by men who have had no previous experience in medical or surgical work, that is by the hospital corps men, you can see how essential it is that these methods should be simple and capable of routine application. When a man falls wounded his first treatment is probably the application of a field dressing. That is not a specialized form of treatment, but the application of the splints is a very specialized form of treatment. It may not infrequently save the man's life; certainly it means everything as regards future function.

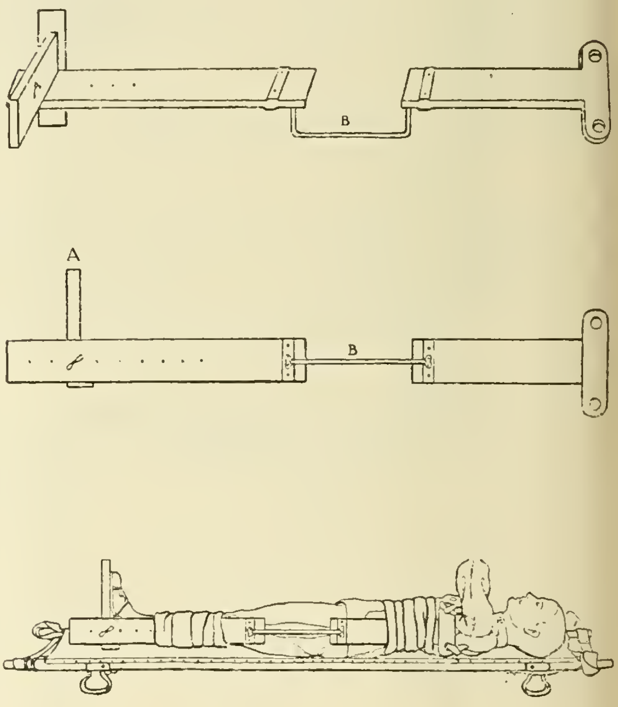


Fig. 6.—Long Liston splint with iron bridge interruption.

No one is more fitted to talk to you on this subject than Colonel Osgood, who has fathered the subject of splinting in the present United States Army. To him and to the other collaborators in the Army Splint Manual work we are in considerable debt for such a satisfactory solution of a difficult problem. I have been asked to discuss Colonel Osgood's paper. I am rather reluctant to do this, for my personal experience with this subject is so small compared with his.

My first acquaintance with the United States Army splints, as such, was when I was assigned to a division in the East of France. The division had not yet gone up to the front, but was on the point of going up. My duties were to go out in a Ford machine and visit all the little towns in a radius of perhaps 15 to 20 kilometers, where the troops of that division were quartered, and to demonstrate to the hospital corps men the use and application of these splints. The fact that these men, previously inexperienced in the use of splints, became so quickly skilful in their use showed that the problem had been, so far, very satisfactorily solved. Later on, at the base hospital near the coast where I have been for the past five or six months, I had a chance to see what these splints had done. At that hospital we had cases that came in from radii that stretched in every direction toward the front. Our base was a sort of funnel through which passed all the patients who, on account of disabilities, were coming back to the United States. Therefore, we saw the bulk of the failures and disappointments of a great number of base hospitals that fed into ours. If I speak of failure, I do not want you to get the idea that failures characterize the work of the splints at all. But when the majority of the worst disabled patients are concentrated in one hospital, they form a pretty large relative proportion compared with the other cases. I am speaking now of cases of fracture, ununited and recently united cases; of patients with lesions of nerve or muscle, causing wrist drop, or foot drop, as the case may be, or distortions or malpositions of the parts. The conditions in which such patients arrive depended much on the care and skill with which the splints had been used. Some came to us without any splints, through carelessness, perhaps; others with splints improperly applied, and many others with splints perfectly applied. When you take a large number of surgeons and physicians, many of whom have been general practitioners in civil life, and put them into military work you necessarily have a certain number who are not cabable of adapting themselves quickly to their new duties. Therefore, of course, some of them make mistakes. It was these mistakes, accumulated and poured into one funnel, that we saw at this base hospital. The men properly splinted came through in good condition, almost invariably. Those not splinted, and those improperly splinted, came through with needless suffering and with the injured part in poorer condition, generally, than it should have been. It is hard to undo the work of a few hours, or of a day or two of jolting and of traumatism due to lack of efficient splinting, much harder to undo than to avoid it by proper splinting. Efficient splinting, then, means a great deal in the prevention of suffering, and a great deal, subsequently, in ability to regain function.

The rôle of the Army splint is very far reaching and important. Its usefulness as we have it now depends largely on its simplicity. In fact, the elementary principles of fixation, extension and traction have been retained in each of these skeleton-like splints that have been selected from among the extensive number that had to be chosen from. The fact that previously untrained men can learn to use them quickly, and that practically all fractures of long bones may be well treated by one or the other of these few splints, leads to the perfection of routine methods, a thing of greatest importance in dealing with large numbers of wounded.

There is always pressure being exerted on the hospitals to evacuate patients and make room for those who are coming. If the enemy has succeeded in making a considerable advance, necessarily hospital areas are wiped out and bed space is lost, and the pressure becomes even greater. It comes down from the front, and everywhere you are asked to evacuate. At such times many patients have to be returned to the United States before wounds have healed, or even before fractured bones have united; that is, during a stage when one would much prefer not to move them. Authority for returning patients to the United States is granted in the form of an "S. C. D." (surgeon's certificate of discharge) only after each patient has passed before a medical examining board. As a member of such a board, I had a chance to see many of these cases in the base hospital. Returning, myself, to this country, I saw a large convoy of them and finally accompanied them in their transport from the boat to one of our own port hospitals, from which they will be distributed to general or special hospitals, as the need may be, for completion of their treatment.

It is worth while to call attention to the number of stages necessary for transfer between the final base hospital in the Expeditionary Force and the first port hospital in the United States. Take, for example, a case of fractured femur in a Thomas ring splint. The patient is placed on a stretcher and sent up by rail to the naval hospital at the port of embarkation, where he awaits the sailing of the boat. As soon as the boat is ready the naval hospital officials are notified, and the patient transported aboard. This involves a series of steps, for it is not possible to get boats of large draft up to the dock at our chief French port. Consequently, it is necessary to use small harbor steamers to transfer the patient from the dock to his boat and the reverse of this process occurs on his arrival at our chief home port. Once on the boats, the stretcher cases are put in the sick bays, where, with facilities for dressing them, good surgeons in charge and operating rooms available, they are easily brought across in that way. In all this moving about the Army splints have stood the test, and I think we need have no fear that we cannot transport the ununited fractures satisfactorily, without causing undue suffering to the wounded men themselves.

Just one word about the necessity for every Army medical officer who is handling wounded men to learn how to use these splints. He must look on these cases with an orthopedic eye. He must look to the final functional result. He must learn to use these splints; and he can do so very easily because of their simplicity. I think you will see, from everything Colonel Osgood has told us, how much importance we attach to these things.

Colonel Osgood, closing: These bone and joint injuries, call them whatever you will, are of great importance. In the after treatment of cases coming to certain allied hospitals where their final determination is to be made, it is not a theory but a fact that 30 to 50 per cent. of the deformities represent preventable deformities. Much can be done to prevent these deformities by organization of a radial control of the splinting from the front to the rear. We are beginning to get it in our Army. We must learn how to do it. We must think of war wounds in terms of function and not in terms of anatomy.

THE CARE OF THE AMPUTATED IN WAR*

DAVID SILVER, M.D. (Pittsburgh)
Lieutenant-Colonel, M. C., U. S. Army
WASHINGTON, D. C.

Loss of limb is one of the most disastrous of the ravages of war. The care of the amputated has always been a serious problem during a campaign and, in a war of any magnitude, an economic factor of importance afterward. Surpassing as it does in every aspect all other wars, this world war may be expected to present unusual demands for the care of the amputated. To the injuries caused by shot and shell have been added the destructive results of gas gangrene and trench foot, so that in the early years of the war amputation was unusually frequent. More recently the prevention of trench foot and the better understanding of gas gangrene have resulted in a very great saving in the number of amputations from these causes. Yet this has probably not produced a corresponding decrease in the total, since with the improved methods now practiced in the care of the wounded it is reasonable to expect a considerable saving of life in the more severe cases requiring amputation. It seems likely, therefore, from present indications that this type of injury would constitute a very large proportion of our permanently disabled.

METHOD OF AMPUTATION

Under the adverse conditions of this modern warfare amputation has presented a problem only rarely encountered in civil practice. The severity of shock, aggravated in many cases by long exposure before aid is secured, the necessity for speed in the evacuation of the wounded, and above all the prevalence and the type of infection, due largely to the character of the soil on the western front, have required a decided modification in the methods ordinarily employed.

The most important change has consisted in the necessary abandonment, in the presence or probability of infection, of the usual methods of flap formation. The Interallied Surgical Congress has definitely recommended that "amputation for infection should be flapless or with short flaps held apart." While the flapless, or, as it has been rather unfortunately called the guillotine, amputation has certain obvious disadvantages, yet it unquestionably seems best adapted to meet the adverse conditions mentioned. Moreover, when the operation has been correctly performed and the necessary after-treatment properly instituted, the disadvantages appear trivial. The flapless operation (1) lessens shock by (*a*) shortening the time of operation, and (*b*) permitting amputation at the lowest possible level; (2) decreases the danger from infection by (*a*) exposing the least possible extent of raw surface, and (*b*) avoiding the impairment of the circulation incident to the formation of flaps, and (3) is also said to lessen the risk of secondary hemorrhage.

When properly performed, that is, when the tissues are divided by layers and time allowed for retraction to take place, the cut surface will be slightly concave and the tissues, therefore, often sufficient to give a fair covering to the bone end; some of these have been closed by secondary suture and many have healed satisfactorily by granulation when skin extension has been maintained. As a rule, however, reamputation has been necessary.

There is also apparently a growing tendency to disregard entirely the levels for amputation as indicated by the requirements for the future artificial limb, and instead to amputate at the lowest possible point. The wisdom of this in infected cases is clear since frequently one, or even more, reamputations have been required before the infection has been controlled. Were the amputation performed in each instance at the most favorable level, the resulting loss of length would many times be disastrous.

STUMP CARE

The wide adoption of the flapless operation has created a new indication in the care of the stump, the necessity for skin extension. When properly and continuously carried out, this often obviates the necessity for reamputation in a large percentage of such cases. Extension may be arranged for either upper or lower extremity by weight and pulley while the patient is recumbent, and by a modification of the Thomas knee splint after the patient is able to leave the bed (or during the whole period if desired).

When the stump is healed, or nearly healed, it is now the general practice to begin vigorous routine treatment to harden the stump, prevent the atrophy from disuse which would otherwise develop, and preserve free movement in the joints above the site of amputation. The greater interest now shown by surgeons in this formerly neglected phase of treatment is a development of this war. The routine measures used consist of massage, bandaging, hydrotherapy and exercises. These measures are first carried out by the attendants, but it seems highly desirable that each patient should be so instructed that he can take over this care himself before leaving the hospital, and in our own reconstruction hospitals this is being done.

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

TEMPORARY LIMBS

The advantage of the early application of a temporary appliance in amputation of the lower extremity has been recognized for some years, but such appliances have come into general use only since the outbreak of the war. This must be regarded as one of the two great modern improvements in the care of the amputated. It not alone shortens the period of incapacity, thus being of great value in maintaining the morale of the men, but has a decided influence on the ultimate usefulness of the stump. Its value in the transport of such cases is obvious.

For the earliest period the plaster peg-leg is most satisfactory. It is easily and quickly made, cheap and entirely comfortable. As applied by our orthopedic surgeons in France, the plaster peg-leg for thigh amputations is provided with a knee-joint so as to permit flexion in sitting and that for below the knee amputations with a thigh cuff to insure greater security. On arrival in this country of men thus fitted abroad with temporary legs the condition of the stumps has been most satisfactory.

There are certain objections to the plaster leg, however: (1) It cannot be easily cleaned; (2) the adjustment cannot be changed except through the use of additional stump socks or bandages; (3) it is a peg and not a modern artificial limb, being therefore not so suitable for long use on account of the danger of the formation of bad habits in walking.

PROVISIONAL LIMB

In such a war as this, therefore, there is a great need for what may be called a provisional limb. The number of amputations has been appallingly high so that it has been impossible for the different countries to meet the demand for permanent appliances. While the United States easily stands first in artificial limb manufacture, we are still hardly in position to supply promptly such numbers as have fallen to the care of our Allies. The humanitarian reasons for fitting the men out with satisfactory appliances as quickly as possible need no discussion. It is also, however, of the greatest importance as an economic measure. Each month's delay in the return of an amputated man to productive labor means the loss for each thousand men so injured of the services of eighty-two men for one year. Since information from our Allies indicates that the loss is usually many months instead of one and that the number of their amputated alone is now probably well over a quarter of a million, the importance of this work to our economic welfare is at once apparent. In order, therefore, to provide the soldier an artificial limb as soon as possible and especially in order to be in position to care for any number of cases, the Surgeon-General has arranged to supply a provisional appliance.

The provisional artificial leg is of regular modern design, but of somewhat less expensive construction, since it is intended to meet the needs of the first six to twelve months only. The parts are so standardized that it is possible to put together and fit such a leg satisfactorily in about an hour in 75 to 80 per cent. of the cases. Subsequent shrinkage of the stump is partly provided for through the use of an adjustable inner cuff of leather. The experience with the provisional leg, although not yet sufficient for a final opinion, has thus far been most encouraging.

The provisional artificial arm has been designed with a base plate, to which can be fitted a hand with movable thumb, a hook, a chuck, a working tool and any other device that is desired. While this is intended primarily as a work arm, it is felt that it will be found to meet the needs of the average individual most satisfactorily.

These provisional appliances have a number of advantages in addition to those mentioned: (1) Since they may be worn until the stump has attained practically its final form, the fitting of the permanent appliance is much more satisfactory; (2) the wearer has an opportunity to learn just what is to be expected of an artificial limb and so is able to make a wiser choice of the permanent one; (3) the use of an artificial limb having been learned, the permanent limb will be spared the wear and tear caused by the ignorance of the beginner and so will give more satisfactory service; (4) the provisional limb will serve as a second appliance for use should the permanent one need repair.

PERMANENT LIMB

Under the existing conditions the soldier will be discharged when he has been fitted with a provisional appliance and thoroughly instructed in its use. Where a provisional limb is unsuitable, a permanent one will be supplied by the

Surgeon-General, but in all other cases the permanent limb will be furnished by the War Risk Bureau. It is understood that the policy of this bureau is to allow the soldier to choose his own appliance. The aim of the Surgeon-General is, therefore, to see that he is so instructed that he may make a proper choice.

TRAINING OF THE AMPUTATED

Previous to the war the medical profession paid little or no attention to the training of the amputated. This important phase of treatment was thus left entirely to the artificial limb manufacturers and they did what little they could in the short time the amputated were under their control, this instruction being limited, of course, to the use of the appliance. With the increasing number of the amputated the necessity for thorough and systematic training in the use of both the remaining parts and the appliance became at once evident, and it seems undeniable that the greater part of the better results now obtained in the care of these cases has been due to this added attention.

"The first step in reeducation consists, naturally, of instruction in the performance of those every-day acts which were formerly the function of the lost member. In amputation of a lower extremity this is a relatively simple matter, but one nevertheless which requires time and painstaking care. Training in walking should be given individually and in squads, and under gradually increasing severity of conditions as regards unevenness of the ground, obstacles, etc. Defects in the gait may be due to: (1) The character of the stump; (2) an improperly fitting socket or a poorly balanced leg, or (3) lack of skill in the individual. When walking has been mastered, more difficult exercises may be begun in suitable cases.

"Those who have lost an arm should first be trained to do all necessary acts without an appliance. The skill of the remaining hand must be developed to the highest possible degree, so as to do not only its own normal amount of work, but also as much as possible of the work of the lost member. The stump also must be utilized to the fullest extent; it is surprising how much can be accomplished by its intelligent use. Even when both hands are gone, it has still been possible for individuals to learn to dress themselves, eat and perform all other necessary daily acts with reasonable comfort by the use of the most simple devices."

To be complete instruction must be given in all the activities of the normal individual. Hence, provision must be made for training in both work and play. Our present Army is composed of young men and it is probable that "one of the keenest regrets of the young soldier who awakens to find himself deprived of arm or leg is occasioned by his apparent cutting off from participation in all outdoor games."

EXPERIMENTAL WORK

In planning for the care of the amputated the Surgeon-General has made definite arrangements for experimental work in artificial limb construction, and such work has been carried out to some extent ever since September, 1917. Now that the situation as regards the immediate needs of the amputated seems to be met, it becomes possible to devote more time to the experimental part of the program. It is planned to make a critical study of the types of appliances now in use and if possible to perfect and standardize them. Particular attention will be devoted to the development of a satisfactory working arm.

Amputations and Artificial Limbs, Mil. Surg., February, 1918.
Amputations and Artificial Limbs, Review of War Medicine and Surgery, August, 1918.
Problem of the Artificial Arm, Jour. A. M. A., July 20, 1918.
Temporary Artificial Limbs, Mil. Surg., April, 1918.

DISCUSSION

Capt. Carl C. Yount, M. C., U. S. Army, Washington, D. C.: In order to prevent atrophy and limitation of motion in the stump of the arm, which is bound to occur if it is not used, we found it necessary to have a provisional arm as soon as the wound had healed. When we looked in the market we could not find it, so we were driven to the task of designing an arm to fill this need. Most of the commercial arms are designed in a way to imitate the normal hand and are merely intented to fulfill the esthetic need; the gripping power is not sufficient for holding any attachment you want the man to use. We have arms with attachments for a particular work or play. The best exercise for the stump we could find was to put the man right into the shop. In order to do that we had to give him something with which to work. This is the Canadian hook. We are working on one of our own. The hook is so designed as to be able to grasp any kind of a tool. This moves on the shafting by means of a check. This arm is fitted with a hand so that it can be held firmly. At the base there is a universal joint. This inserts into the arm with universal attachments. It can be placed in five positions in one plan and ten in the other. On the former the simple hook is very useful. Wheelbarrow, hoe or rake can be used very effectively. This hook has been used effectively for years. A hook can be inserted into the arm and enabled to hold a great many tools. Of course our men are all young men and they want to feel they can get into the game again, so we have arranged to have playing attachments, such as tennis racquet or baseball glove; a number of attachments can be inserted so that it enables the man to go ahead with the schedule of curative training.

Lieut.-Col. Robert B. Osgood, M. C., U. S. Army: I do not think Colonel Silver has quite made you realize the enormous importance of this problem and the satisfactory way in which it is being solved. Six months after the war began, Professor Tuffier in Paris told me there were 7,000 cases of amputations already in the French army and the annual supply of artificial limbs in France at that time was 700. At the present moment, in spite of great effort, I think it can be said there are 10,000 people waiting in one of the allied countries six months longer than they need to wait for artificial limbs. This means the loss of a man's labor to a nation for 5,000 years.

The ingenious appliances of Captain Yount are original with the American Army and in practical use are very satisfactory. It is surprising the extreme facility the men acquire with them. It is an enormous task that is being undertaken and the efforts being made bid fair to save the country a very large economic waste.

DUCTLESS GLANDS IN MILITARY PRACTICE *

CHARLES E. DE M. SAJOUS, M.D., LL.D., Sc.D.

PHILADELPHIA

When, at the outbreak of the war, I applied for a commission in the Medical Reserve Corps of the Army, Prof. W. W. Keen, one of my sponsors, added his plea to mine that I be allowed to give special attention to the disorders of the ductless glands incident on warfare. In answer, we were informed that "all members of the Medical Reserve Corps must be prepared to accept duty wherever the exigencies of the service may demand" and that "no promise could be made in regard to any particular duty or assignment." The Navy Department to which a similar application was made, requesting service in France, where the ductless glands had received due attention, sent an equally discouraging response. It is probable that if it had been possible to enter the active service for any kind of duty, as was my intention, matters would have been arranged so as to afford me the opportunities mentioned. But neither the Army, Navy, nor the Red Cross would hear of foreign duty for a man who had, unfortunately for him, just passed the retiring age.

Since these urgent appeals were made to study and emphasize the importance of the ductless glands in military practice, others have been published. As late as last February, S. P. Beebe,[1] for instance, referring to hyperthyroidia, wrote: "As far as the writer can learn no special provision has been made for this class of patients. They need and deserve such care." Again, "The early stage of the disease is the period most easily remedied. The early recognition of thyroid disease and its proper treatment is, therefore, a part of the great struggle." Harlow Brooks[2] only last May expressed great surprise at the large number of such cases he found among recruits at Camp Upton and concluded that "it was very probable that earnest study would permit a considerable and very valuable amount of material to be salvaged."

When we come to the adrenals the field of study becomes even more comprehensive, in the sense that many of the commonplace disorders, including several compromising life itself, are intimately bound up pathogenically, at least in part, with these organs. I am no longer alone in emphasizing this close relationship. The asthenia of excessive strain, the sudden deaths of adrenal failure, the soldier's irritable heart, warfare shock, the terminal hypoadrenia of infections, the collapse following antityphoid vaccination are examples of disorders in which the adrenals take a prominent part. As we shall now see, numerous observers at the front have shown that it is only through recognition of this pathogenic connection that adequate therapeutic measures can be applied—a fact which our military surgeons should bear in mind if their earnest desire to do their duty is to be fulfilled.

We shall begin with the many cases of asthenia due to the excessive strain, mental and physical, incident on active warfare. In these men the predominant phenomena, besides marked asthenia and psychasthenia, are low blood pressure, constipation and various gastric disturbances. The latter as observed by Loeper[3] are more of the nature of digestive discomfort, and their adrenal origin may readily be established by means of small daily injections of 1/120 to 1/60 grain of adrenalin in saline solution. Under this treatment, the gastric phenomena, though in no way influenced by the usual measures, soon disappear along with the obstipation, while the blood pressure rises and the neurasthenic symptoms steadily improve. The same morbid phenomena may attend convalescence from severe wounds; tonic doses of adrenalin in these not only correct the disquieting symptoms, but hasten convalescence, unless the adrenals themselves be diseased as in twenty-six cases recorded by Ramond and François[4] in which the Addisonian syndrome was discernible, the adrenal lesion in most of the twenty-two fatal cases being tuberculous. Yet, as

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

[1] Beebe, S. P.: Medical Record, Feb. 9, 1918.

[2] Brooks, Harlow: Trans. N. Y. Acad. Med., Feb. 7, 1918.

[3] Loeper: Progrès Médical, July 21, 1917.

[4] Ramond and François: Bull. de la Soc. Méd. des Hôp., Oct. 12, 1917.

shown by Sergent,[5] Addisonian symptoms may appear and the favorable issue of the case prove that the adrenal debility, as he terms it, has been but temporary.

Belonging also to this phase of hypoadrenia are the sudden deaths sometimes observed in soldiers after violent exertion without apparent lesion of the heart. In such cases, Josué[6] found the heart virtually normal in some, but in others, the organ was enlarged and the adrenals remarkably small. Brown-Séquard, as far back as 1860, and Oliver and Shaefer laid stress on the influence of the adrenal secretion on cardiac dynamism. In such cases, therefore, the exhaustion of the adrenal product attending physical stress, fails to be compensated by the excess of secretion that normal adrenals would produce. This "adrenal asystole," as Josué terms it, is characterized in life by a large heart with low systolic pressure, frequently with arrhythmia, auricular fibrillation and more or less dyspnea. Sergent's white line, which appears after the finger or a penholder, has been drawn over the skin, may also be discerned in most of these cases. Digitalis affords no benefit, but adrenal gland orally, 2 grains twice daily, and adrenalin 1/60 grain (1 mil) injected daily in a little saline solution, is of marked benefit and, if used early, may ward off a fatal termination.

If we recollect the symptoms of the soldier's irritable heart, first described by Prof. J. M. DaCosta during our Civil War, viz., pallor, paroxysmal dyspnea, myasthenia sometimes to the point of exhaustion, tachycardia, reaching sometimes 120 and accompanied by arrhythmia increased in most cases by exertion, occasionally cyanosis beginning at the lips, we are undoubtedly dealing with hypoadrenia in many cases (others being due to hyperthyroidia) as an underlying cause. Meakins, Thomas Lewis and others[7] found that this condition represented from 50 to 55 per cent. of all cardiac disorders encountered in soldiers. As I have urged elsewhere, excessive exertion incident on warfare, with excitement, rage and perhaps fear in some, lead to functional exhaustion of the adrenals; the heart and blood vessels then lose their tone and the disorder is awakened.

Lian[8] noted that light cases appeared only on marching and passed off after varying periods of rest, but that in others the tachycardia often of 100 persisted even in the recumbent position. Most authors hold that both the systolic and diastolic pressure are low; Martinet,[9] however, found it high in most cases. This author, however, who uses the Pachon instrument, is prone to obtain too high readings. Again, the condition he describes is not true irritable heart, but the expression of arteriosclerosis often developed or increased under the influence of military hardships. On the whole, however, the increasing prevalence of symptoms of hypoadrenia in the men in active service, particularly those in the trenches, pointed out by Sergent, should be borne in mind.

The symptomatology of shock as observed in the present war differs only from that observed in civil life in that the severity of the exertion during combat, free hemorrhage, exposure to cold, severe pain and lack of food after lying out perhaps many hours or even days in the open, multiply greatly the cases brought in verging on collapse. Recent work on the adrenals in their relation to shock corresponds with the behavior of these organs under other debilitating conditions. Bedford and Jackson,[10] for instance, found that during shock, and where, irrespective of shock, low blood pressure existed, the adrenals did not take part in the general adynamia, but tended to overcome it by increasing their secretory activity. On the other hand, the dusky pallor, the low surface temperature, the dark and cyanotic blood in the peripheral capillaries observed in shock, bespeak the deficiency of adrenal secretion in the light of the functions I have attributed to these organs in respiration and general oxidation. Experience at the front has verified the correctness of this interpretation. While rest and warmth, using, if possible, some improvised hot air bath, hot water bottles and warm saline enemas, are important features of the treatment, the chances of recovery are greatly enhanced by hypodermocylsis, or intravenous infusion with 15 to 20 minims of the 1/1000 solution of adrenalin, renewed as needed.

As regards adrenal failure attending infectious diseases or terminal hypoadrenia, as the writer has termed it, in the course of the present war, it has so far been observed as a complication of malaria, dysentery, typhoid fever, and diphtheria. After a period of high temperature, the latter begins to fall and soon becomes subnormal; the blood pressure likewise recedes, and extreme prostration, vomiting, diarrhea and colicky pains soon follow. In threatening cases, collapse with algidity, cyanosis and clammy sweating follow, the case passing into lethal coma unless the prompt use of adrenalin in suitable doses, administered with warm saline solution, enables the patient to recover his vascular tension and circulatory activity. In three fatal cases of this class due to malarial fever, Paisseau and Lemaire[11] found, besides enlargement of the spleen common to malarial cases, organic lesions of the adrenal cortex. This corresponds with the recent studies of G. S. Graham,[12] which showed that this portion of the adrenals was very sensitive to poisons, its cells being readily injured or killed by them. Other writers have shown that hemorrhages, punctiform or widespread, in the medullary portion, are also common as complications of severe infections, death sometimes occurring suddenly. Surviving cases sometimes lapse into an Addisonian type of adrenal disease, even to the stage of bronzing.

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[5] Sergent: Bull. de l'Acad. de méd., No. 36, 1915.
[6] Josué: Paris Méd., vi, p. 7, 1916.
[7] Meakins, Thomas Lewis and others: Brit. Med. Jour., Sept. 23, 1916.
[8] Lian: Presse Médicale, May 22, 1916.
[9] Martinet: Presse Médicale, Nov. 4, 1915.
[10] Bedford and Jackson: Proc. Soc. Exper. Biol. and Med., xiii, p. 85, 1916.

Terminal hypoadrenia attending bacillary dysentery, four cases of which developed in 100 cases of the latter disease in soldiers, observed by Remlinger and Dumas[13] seems to resist all treatment, even the use of adrenalin. Amebic dysentery, a common cause of adrenal insufficiency, according to Dujaric de la Rivière and Villerval,[14] fares better under this treatment when, of course, used in conjunction with specific remedies, emetin, etc. A feature emphasized by all these cases is that tropical diseases may be transmitted by troops from the tropics to troops from nontropical countries, if the latter occupy quarters, trenches, etc., previously inhabited by the former.

Closely associated with the foregoing is the collapse following antityphoid vaccination and which, according to Loeper,[15] occurs in the French army in one out of four or five hundred vaccinations. It occurs occasionally after the first vaccination, but is apt to follow either the second or third, especially if the subject has undergone physical fatigue. The phenomena which include the typical triad of hypoadrenia, marked asthenia, low blood pressure and Sergent's white line, may, according to Surgeon-Major Satre,[16] appear very soon after the injection, one or two hours in the majority, five or six hours in some, and exceptionally after fifteen hours. They are, as a rule, preceded by chills and a marked rise of temperature, but these are brief and are succeeded by hypothermia. The subject then becomes pale, his pulse very rapid and weak, and the blood pressure very low, down to 50 mm. systolic and 30 diastolic, in some instances, the circulatory collapse being the essential note of the morbid process. Coldness of the extremities with cyanosis of the lips, face and nails, muscular and abdominal cramps, vomiting, diarrhea and the intense general asthenia and mental torpor constitute a picture of no mean intensity.

The acute stage, which may persist from two to eight days, may include various complications, such as anuria, splenomegaly, hepatic congestion, pulmonary congestion, sometimes with edema, albuminuria, convulsions, cachexia, etc. Sooner or later, however, when convalescence occurs, oliguria replaces the anuria, the urine being dark and rich in salts, two to three quarts being voided in the twenty-four hours. The arterial tension and the temperature soon resume their normal levels and the patient recovers rapidly.

How is the morbid process awakened? According to Fiessinger, Sergent, Loeper, Satre, Oppenheim and others, who have observed many cases, it is due to sudden failure of the adrenals similar to that produced by various infections described under the preceding head, the antityphoid vaccination affecting the adrenals as do vaccines. In practically all cases, however, diseases which are known frequently to cause lesions in the adrenals, tuberculosis, erysipelas, scarlatina, dysentery, pernicious malaria, etc., were found to have occurred, failure of the adrenals following vaccination being the result under these conditions of degenerative lesions of old standing which had compromised the ability of the organs to react safely under any toxemia. Excessive fatigue incident on warfare, by causing the formation of an unusual proportion of toxic wastes, is a familiar factor in this connection, the adrenals, as shown by Abelous and Langlois many years ago, taking an active part in the catabolism of these poisons.

Great attention has been paid in the French army to the prevention of postvaccination collapse, as a result of these observations. The great frequency of adrenal insufficiency among combatants should always be borne in mind and antityphoid vaccination should be avoided in overtired men, and practiced only after a period of absolute rest. If the blood pressure remains low, daily injection of 10 to 15 minims of 1:1,000 solution of adrenalin or of adrenal gland should be employed until the vascular tension is restored. The overwrought, emaciated, debilitated, and former tuberculous and nephritic individuals are poor subjects for antityphoid vaccination.

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[11] Paisseau and Lemaire: Presse Médicale, Dec. 4, 1916.

[12] Graham, G. S.: Jour. of Med. Research, xxxvi, p. 241, 1916.

[13] Remlinger and Dumas: Ann. de Méd. de Paris, Dec., 1915.

[14] Dujaric de la Rivière and Villerval: Paris Médical, April 21, 1917.

[15] Loeper: Presse Médicale, xxiv, p. 463, 1916.

[16] Surgeon-Major Satre: Jour. de Méd. de Paris, May, 1918.

For the treatment of the collapse in these cases stress is laid on the use of adrenalin injections, 10 to 15 minims of the 1 : 1,000 solution every three or four hours as needed. If injections are impracticable through lack of a syringe, clean water, etc., the same doses dropped on a lump of sugar, inserted between the cheek and gums, as practiced by Rolleston, or adrenalin tablets containing one-sixtieth grain each, placed under the tongue, will serve the same purpose, though somewhat more slowly.

In the field of the thyroid gland, excessive activity ranging from simple hyperthyroidia to fully developed Graves' disease, appears to be the dominant feature. The milder form is especially frequent in recruits and the more serious syndrome in soldiers on active duty.

In the study of hyperthyroidia in recruits by Harlow Brooks[17] previously referred to, the syndrome, identified by British surgeons as "disordered action of the heart" and ascribed by some of them to infection or to some unidentified agent, also includes, undoubtedly, many of the cases termed by the late J. M. DaCosta "irritable heart of soldiers." It consisted in nearly every instance of tachycardia, rarely accompanied by arrhythmia, with, in many instances, a systolic murmur at the apex, increased towards the axilla, and not organic in nature, as indicated by graphic methods. The tachycardia is usually increased by exercise, although if the man's attention is distracted, showing the emotional side of the symptoms, slowing of the cardiac rate may occur. Throbbing of the superficial vessels, notably the carotids, delay of the capillary return, sudden and rapidly succeeding flushing and pallor, low pulse and blood pressure are usually observed. These circulatory symptoms may be associated with vertigo and fainting, both precipitated by emotional stress, even where this was slight, during physical examination, for instance. Emotional instability is evident in some of these cases, outbursts of passion, headaches, unreasonable apprehension, tears, convulsive spasms, and even epileptoid attacks being witnessed. Neurovascular instability is also shown by the occasional presence of dermographia, urticarial rashes, the tache cérébrale and tremor. Dyspnea and slight variations of temperature were also noted at times.

The thyroid gland was found enlarged in about two-thirds of the cases, sufficiently in some to constitute true goiter and to produce pressure dyspnea. In most of these an ancestral history of goiter, particularly on the maternal side, was given. Exophthalmos was present in cases of long standing, sufficiently so, in some instances, to have produced conjunctival hyperemia and desiccation. In some, the exophthalmos had developed suddenly. Virtually all patients were rapid and large eaters, but they bore acute infections badly, while tobacco produced in them more serious symptoms than in the average smoker.

This syndrome, which includes all the cardinal signs of Graves', was observed chiefly among men belonging to nationalities in which the emotional element is common: the Hebrews, Italians and Irish, the frequency following the order named. The negroes, least of all races, showed a predilection to the disorder.

As to treatment, it is worthy of note that both adrenalin and the nitrites increased the symptoms, and that the tachycardia could not be controlled by digitalis even in massive doses. Rest, both physical and mental, accentuated by the use of bromids, followed by the normal, healthful routine of the military camp, brought about recovery in many cases, particularly where military life and surroundings or the sense of duty and obligation were a source of pleasure.

In civil life emotional stress of any kind, fright particularly in the course of accidents accompanied by traumatisms or blows, car or train disasters, mental distress, worry, violent emotions, etc., are familiar causes of Graves' disease. A personal case due to an accident and rapidly proceeding to recovery under medical treatment, recurred at once after a second accident, though the patient had suffered no traumatism. As recalled by Beebe,[18] cases of severe hyperthyroidia were numerous after the Kishineff massacre in Russia, and the San Francisco earthquake. That the exigencies of service in the field, the intense excitement, stress and apprehension provoked by modern methods of warfare, shell fire, bombs, rapid-fire guns, etc., should prove a prolific source of hyperthyroidia and its aggravated form is self-evident. Léon Bérard[19] met a relatively large number of such cases in soldiers. In three of these Graves' disease in its typical form followed suddenly a violent emotion, great anxiety, and strenuous exertion. Leniez[20] observed milder cases in military men thrown from a horse. Some of

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[17] Brooks, Harlow: Loc. cit.

[18] Beebe: Medical Record, Feb. 9, 1918.

[19] Bérard, Léon: Bull. de l'Acad. de méd., Nov. 28, 1916.

[20] Leniez: Progrès Méd., Nov. 20, 1916.

Bérard's cases had already had small goiters, and could be credited to food intoxication, nonpotable waters and bacterial infections.

The treatment of cases in soldiers on active duty that can be clearly traced to emotional stress and which includes, doubtless, some of the cases recorded as instances of "shell shock," is similar to that employed in recruits, viz., rest, mental and physical, supplemented by the bromids. Where, however, there is marked vascular dilatation, goiter, or exophthalmos, the quinin hydrobromide and ergotin treatment should be resorted to, supplemented, if need be, by injections of boiling water, as indicated by Porter, or of sterilized 30 to 50 per cent. solution of quinin and urea hydrochlorid into the goitrous mass, as practiced by Watson.[21] In all cases, careful examination for a possible focus of infection, dental, nasal, aural, etc., or of intestinal intoxication, should be sought and, if possible, eliminated. Such cases are due to excessive activity of the thyroid as a factor in the systemic defensive functions and elimination of the source of infection or intoxication supplemented by treatment of the gland, indirect and direct, in the manner described above, procures excellent results, and render surgical procedures unnecessary.

Summarizing all these facts, it can hardly be gainsaid that insofar as recruits are concerned, proper recognition of the diseases of the ductless glands and their treatment would enable a large proportion of men now deemed unfit to continue their service. As for the armies in the field, it is a question of life and death in the large proportion of cases of disease of the adrenals or of the thyroid, including many cases of so-called "soldier's heart," as regards the the latter organ. All this should be taken to heart by our military authorities, if their excellent work in other directions is to encompass all fields of suffering.

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DISCUSSION

Dr. John A. Lichty, Pittsburgh: I am sure no one can speak with greater experience on this subject than Dr. Sajous. His clinical experience has been so well formulated and his observations so exact that he has anticipated by years very much of what I shall refer to in my discussion as having been established experimentally by laboratory methods. In fact the recent researches confirm what Dr. Sajous has long held. I regret very much that Dr. Edsall is not here this morning to read his paper, which I am sure would be a very valuable one, and also that we cannot hear the paper of Dr. Maier which deals more specifically with another phase of the question. Because these papers have not been read I shall direct my discussion more specifically toward the thyroid disturbances.

In considering the disturbances of internal secretion there are always two points which come out necessarily and one of these is the early recognition of the disturbances of the function, that is, of typical cases; the other is merely a question in physical or clinical diagnosis and will depend largely on the keenness of the observer. The burden of this is largely on teachers of medicine in seeing that the present medical students, or the men who are in training now are taught to look for these cases. The other point which always comes out in a discussion of this kind is the treatment, or care of these cases. There are differences of opinion, so much so that we are inclined to get into groups, or camps. Some will treat one way, others another, and others still another way. Now there are reasons for this and the reasons are brought out more clearly from year to year as we go on in our understanding of the condition. There are three men who have probably gone the farthest in the study of these cases and who have probably created an epoch in the study of the cases: one is Cannon of Harvard, who has, with other men, established rather definitely the innervation of the thyroid gland, for instance, as well as other glands of internal secretion as being from the vegetative nervous system, from the sympathetic nervous system. This is established and from this we can say very definitely why fear, anger, rage, shell shock, or whatever it may be, will have an effect on the glands of internal secretion and this in itself will help establish a mode of treatment in a certain class of cases. Another epoch-making study in this question is that of Du Bois on the disturbance of metabolism showing that basal metabolism in these cases is interfered with. To express it in a very concrete way, we can say to the patient who has thyroid disorders that if 2,500 calories in his food are sufficient to carry him along under ordinary circumstances, with his present condition it will require 4,000 calories. That is, the basal metabolism is increased by possibly 75 per cent. A recognition of this fact will carry us along very far in the recommendation of treatment.

A third which has been brought out, and which possibly can be considered as established, is the study which has come from the Mayo Clinic at the hands of Kendall, who shows that there is a chemical change in the secretion of the thyroid gland: that the iodin secretion is increased to a great extent, 60 per cent. of which is probably pure iodin. The idea is that this is an intracellular chemical change and will probably again establish a certain line of treatment. Now the differences of opinion in the treatment of these cases are possibly the same as the differences of opinion in the treatment of other cases, for example, such as peptic ulcer, medical or surgical. It depends entirely on the stage at which the case is met. In the thyroid, or other glands of internal secretion, if the case is met at a time when the vegetative nervous system only is affected, or is the chief factor, surgery, of course, is not to be considered. These are the cases in which rest is the great factor. We have known this for a long time. It has been recognized. We have another very definite proof of this in one of the glands of internal secretion, namely, the pancreas, in which rest has been shown to be such a great factor, as has been demonstrated by Allen and Joslin in their studies of diabetes. We do not know what to do in diabetes but rest the gland, and probably the condition will swing back to comparatively normal function. If the thyroid case is met with at a time when the chemical change is already great, Kendall says that with the injection of his iodin product he can control the condition. He can furnish the iodin which is lacking and can possibly bring these cases, as well as those of cretinism and hypothyroidism, back to the normal. In such conditions, of course, surgery is not to be considered, but if the condition gets to a certain point where neither of these three factors, rest, forced feeding, the administration of internal secretion, are helpful, when it has gone beyond our control we might say, then, of course, some direct effect on the gland itself will have to be brought about, and under these circumstances surgery will, no doubt, be called into play.

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[21] Watson: Jour. Amer. Med. Assn., Jan. 10, 1914; Sept. 25, 1915.

Now there is no question that the thyroid gland and the other glands of internal secretion should be considered in the same way as other tissue is considered when there is a definite pathology. If there is a growth of the thyroid, if there is organic change such as must be dealt with in a surgical way as organic change in other tissue or organs, certainly surgery is the method of procedure or approach. So I believe with our well defined understanding of these conditions our treatment will be broader, will be more liberal, and that we will go much farther in the relief of the conditions as they are found in our patients.

Dr. E. Bosworth McCready, Pittsburgh: We have in this symposium heard a masterly discussion of the internal secretions from the standpoint of military practice. It is our loss that the paper from the standpoint of clinical medicine and of gynecology and obstetrics were not read. I wish to spend the time allotted to me in consideration of the subject from the standpoint of one whose contact is with children with defects of development in which anomalies of structure and function of the ductless glandular system is a most important etiologic factor, most particularly do I wish to speak regarding treatment as a means of preventing in later life the conditions which have been so ably considered by those who preceded me. The reports of the Army medical examiners show how prevalent are organic and functional defects of development among the adult male population. Surveys of large groups of children have shown the existence of malnutrition to an almost incredible degree. It is to a large extent these malnourished, asthenic children who later develop the glandular anomalies under discussion. Food quality and food quantity is a factor in metabolism, but only a factor. Metabolism depends on a proper balance of all physiologic functions, particularly on those of the ductless glandular apparatus.

Preventive treatment should begin before the child is born, through proper parental care, including, when indicated, the administration of ductless glandular preparations to the mother as has been for some time advocated by Dr. Sajous. Proper care during infancy is most important, as defects in growth and development often have their origin in digestive disturbances and faulty hygiene at this period.

The training camps have been a wonderful object lesson in showing what can be done through strenuous exercise, fresh air, regular habits and an abundance of good food, toward correcting errors of metabolism and nutrition. It is not uncommon to hear of a gain of 25 pounds in weight during the training period. If we cared for our children one half so intensively there would be fewer claims for exemption from the conflicts and stress of ordinary life.

As I have already intimated, it is the constitutionally inferior types who are most prone to develop irregularities in ductless gland function. The vital forces of correlative growth are reciprocal in action; the secretions from the ductless glands stimulate development; such development affects the cellular constituency of the glands themselves as it does the cells of other tissues. With each forward step in development, ultimate function becomes more nearly perfect. So we stimulate ductless glandular function by any measure, medical or hygienic, which favors anabolism and the elimination of waste, and the result of ductless glandular stimulation is a further stimulus to development. Thus exercise, massage, baths, diet, rest and the various tonics and alteratives have their place in the treatment of ductless glandular imbalance and insufficiency.

A valuable adjuvant to treatment is the administration of ductless gland substances themselves. In early cases of organic inferiority the implication is most often pluriglandular, emphasized, perhaps, by one particular gland, as the thyroid, thymus, pituitary or suprarenals. The indication is for pluriglandular therapy, dosage of individual glands depending on a careful analysis of the symptoms.

Dr. Sajous, closing: Dr. Lichty referred to the papers by Cannon in connection with the sympathetic system and of Dubois on metabolism as epoch making. A number of former workers have demonstrated this fact before these two workers, however, but work of the latter has been valuable because it finally confirms these older conclusions. Cannon's excellent work in connection with the influence of fright and excitement on the adrenals, though applicable to the thyroid and other organs under the influence of the sympathetic from my viewpoint, is fully confirmed by the present war; it is one of the basic factors of several morbid and lasting conditions often witnessed. If army surgeons take cognizance of these etiologic factors they will find in all hospitals cases that do not respond to the ordinary treatment of heart cases, but which will immediately respond to appropriate organotherapy, or remedies affecting the ductless glands *per se*. Of truly epochmaking value, however, is Kendall's conception of the active principle of the thyroid secretion, provided, as I think it will, it prove well founded.

THE PRESENT STATUS OF THE TREATMENT OF SYPHILIS*

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The present day treatment of syphilis is strongly influenced by the newer comprehension of the period, mode and extent of systemic invasion by the causative parasite. We realize now that the motile spirochete begins to migrate beyond the site of infection not many hours after implantation has taken place. Neisser failed to abort a case of syphilis by excision of the site of infection eight hours after exposure. About the time of the appearance of the secondary eruption, the parasites which have passed from the lymph stream into the blood stream are widely diffused throughout the body. There is a veritable spirochetic septicemia leading to a deposit of the parasites in the skin, the mucous membranes, and in various organs and tissues, including the central nervous system.

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

It is obvious that the earlier treatment is instituted the greater is the probability of cure. The most favorable cases are those in which the diagnosis is made by the detection of spirochetes in the incipient chancre before glandular enlargement and a positive Wassermann reaction occur. The later treatment is delayed, the more widespread is the dispersion of the spirochetes and consequently the more difficult it is to reach them by the means at our command.

There are three recognized drugs in the treatment of syphilis, arsphenamin, mercury and the iodids.

Arsphenamin is generally recognized to be the remedy of paramount value. Its magical effect on symptoms is due to the fact that it has a powerfully destructive effect on the spirochete and that it may be administered in large dosage. These two phenomena are due to the high parasitotropic influence of the drug, and the low organotropic effect. The stroke of genius in Ehrlich's work was in taking inorganic arsenic, a substance possessing but little chemical affinity for the protein of the spirochete and a high combining power with the protein of body cells, and by incorporation in an anilin molecule and ultimate chemical manipulation of the same, reversing the chemical affinities for cell and parasite. Arsphenamin is fifty times less toxic for experimental animals than is mercury. Arsphenamin likewise has a roborant or tonic effect which mercury does not possess.

While there is a unanimity of opinion as to the great value of intravenous infusions of arsphenamin, there is a considerable divergence of sentiment as regards the dosage and the frequency of administration.

The custom of the largest body of physicians is to give one dose of 0.4 to 0.6 grams at weekly intervals. Pollitzer of New York, one of the leading syphilographers of the country, has advocated a very intensive procedure consisting of three administrations of a full dose of arsphenamin on three successive days, with the idea of destroying the spirochetes by a sort of fractional sterilization; this series is to be repeated at proper intervals according to conditions. The principle underlying this treatment is sound, but unfortunately the extreme complexity of the manufacture of arsphenamin does not permit of absolute constancy in the drug. It is quite possible that improvements in the chemical processes employed may in time guarantee a product of uniformly low toxicity which will permit the more general adoption of the procedure in question.

The spirochete is vulnerable to arsphenamin and to mercury. The iodids do not appear to have any direct destructive influence on the spirochete. In an attempt to eradicate every spirochete as early in the disease as possible, why should we not shoot with two arrows? I realize that Wechselman has warned against the use of mercury precedent to the use of arsphenamin, on the grounds that in his belief, most of the arsphenamin fatalities are due in large part to renal insufficiency, and that in the majority of cases it was mercury that damaged the kidneys. There can be no doubt that mercury has a strong affinity for the renal cells. We are all familiar with the dominant symptoms in bichlorid of mercury poisoning. Drs. Kolmer, Raiziss and myself have demonstrated in experimental animals the noxious influence of large doses of soluble and insoluble mercurial preparations on the kidneys. I believe that there is a considerable element of truth in the assertion that renal insufficiency is commonly a factor in contributing to or in actually causing deaths after the administration of arsphenamin.

As regards the poisonous effects of mercury, much depends on the manner in which the drug is used. Intravenous injections of the insoluble compounds, such as gray oil, calomel or the salicylate of mercury, should be used only in small dosage (*i. e.*, not over 1 grain), and with a careful watch on the condition of the kidneys. A weekly injection of even 1 grain will lead to accumulation of the drug in the tissues. Within the past fortnight a death occurred in one of our clinic patients from uremia, following weekly injections of 1 grain of the salicylate of mercury. The safest method of administering therapeutically active doses of mercury is by inunction.

My belief is that the use of three inunctions of mercury per week is a valuable measure to associate with the use of arsphenamin, particularly in the primary and secondary stages of syphilis, at which time rapid sterilization is aimed at. The arsphenamin may be administered in 0.4 to 0.6 gm. doses (depending on sex and body weight) once a week, or preferably in 0.3 gm. doses twice a week. I believe the conjoint use of arsphenamin and mercury in moderate dosage is safer than the employment of either one singly in intensive dosage. The biweekly use of arsphenamin has the disadvantage of causing an increased inconvenience to the patient and of augmenting the expense of treatment, but in the manner suggested, I believe, that it combines safety and efficiency better than other methods.

No one is in an authoritative position today to state how long the treatment of syphilis should continue. Too often the physician will cease treatment after a single series of arsphenamin injections and perhaps a course of mercury, because the Wassermann reaction has become negative. Experience proves that such a course usually requires the later resumption of treatment, with valuable time lost. While it is difficult to prescribe any routine formula, we may at least indicate an irreducible minimum of treatment.

A patient with an early chancre and a negative Wassermann reaction should receive at least two series of arsphenamin administration each consisting of six intravenous injections, and two courses of mercurial inunctions, each consisting of thirty rubbings. The likelihood of abortive cure with such a treatment is good.

Primary syphilis with positive Wassermann reaction, and a secondary syphilis will require at least 50 per cent. more treatment during the first year. Treatment should be continued during the second year with somewhat decreased intensity, and during the third year with a diminishing number of treatments. If the Wassermann reaction remains positive, the treatment must be continued with such modifications as may be indicated by spinal fluid findings. We have had patients whose persistently positive Wassermann reactions were rendered negative by intraspinal medication, where such treatment was indicated by pathologic spinal fluid findings.

The weakness of the Wassermann test is on its negative side. We have all seen patients, from time to time, with negative blood tests and active syphilitic lesions present. We must bear this in mind and not be solely guided in our treatment by the serologic findings. When the Wassermann is positive, further treatment is indicated; when it is negative, we should not cease our therapeutic endeavors unless the patient has had adequate treatment. In our efforts to eradicate the infection we should not, however, forget that the patient is to be treated as well as the disease. Loss of weight, strength and vigor under intensive treatment should lead us to suspend specific treatment for a time and and build up the patient's condition by proper tonic and hygienic measures.

The spinal fluid exhibits pathologic findings in a considerable percentage of cases of syphilis in the secondary period, or even, indeed, before this. That these changes represent an infection with the spirochete is demonstrated by the fact that inoculation of the fluid beneath the scrotum of rabbits has resulted in the production of syphilomata. Most patients with syphilis escape ultimate nerve involvement because of the action of local antibodies which destroy the spirochetes. Apart from this, early and adequate treatment is the most important safeguard. Most of the cases of tabes and paresis which have come under my personal observation have had little or no early treatment. I realize that many cases, however, that have had fairly vigorous early mercurial treatment, have occurred in the past.

We know from years of experience that mercury and the iodids have proven helpful in the treatment of tabes dorsalis. The intravenous administration of arsphenamin is unquestionably of greater value in controlling the symptoms and arresting the disease. Of still greater value is the intraspinal treatment either by the Swift-Ellis, Ogilvie or combined methods. At the Polyclinic Hospital, Dr. Strickler and I have obtained pronounced clinical improvement and negative spinal Wassermanns in several cases of tabes by spinal treatment, after numerous intravenous treatments had failed to achieve this result. A physician with cerebral syphilis of the exudative type characterized by apoplectiform seizures, tinnitus aurium and paraphasia became progressively worse despite twenty intravenous injections of arsphenamin and mercurial injections and iodids. His spinal fluid findings indicated that he did not have paresis. He was taken to the hospital in a pitiable state of incoherence. Thirty-six hours after an intraspinal treatment, his speech and his mind cleared up as suddenly as if a spring had snapped. At the present time, six months after the last treatment, the improvement has been fully maintained.

It is obvious that one cannot restore degenerated cells or tracts. The successful treatment of paresis and tabes should be instituted before distinct clinical symptoms are observable. The treatment of paresis, like the treatment of smallpox, should be a preventive one. In order that this can be accomplished the potential paretic must be recognized by his spinal fluid findings. Long before clinical evidence is at hand, the colloidal gold test will give warning. If this is heeded, and appropriate treatment instituted, paresis may be prevented.

Before any patient with syphilis is discharged from observation, a diagnostic spinal puncture should be made. But a few days ago a private patient who desired to apply for a commission in the Army, came to me for a Wassermann test. His blood Wassermann was negative but his spinal fluid was positive, and he exhibited with the colloidal gold test a luetic curve. Clinically there was no evidence of any nerve symptoms.

The medical profession has at its disposal the means of robbing syphilis of its terrors, but to accomplish this, painstaking and persevering treatment based on modern scientific principles is necessary.

1922 Spruce Street.

DISCUSSION

Dr. Francis X. Dercum, Philadelphia: I am sure you will all agree with me that we have listened to Dr. Schamberg's paper with much satisfaction. We all know how actively Dr. Schamberg has worked in this field and how much the United States at large owes to him for what he has accomplished. A number of interesting points are presented for discussion. It is a matter beyond question that there are pathologic findings in the spinal fluid at a very early stage, much earlier indeed than we formerly thought likely; I can now recall a clinical experience that seemed to me at the time most remarkable. Many years ago I had a patient in my clinic who, while suffering from a syphilitic hemiplegia, had at the same time secondary eruption on his person, the initial lesion having occurred three months before.

As regards arsphenamin, we have used this drug extensively in my clinic at the Jefferson Hospital, both in the exudative and in what I prefer to call the parenchymatous form of syphilis; that is, the form represented by tabes and paresis. Our experience with regard to paresis has been that not infrequently the treatment was followed by remissions, remissions of quite long duration. However, we should be careful as to the inferences which we draw, because of the frequent occurrence of remissions without any treatment whatever. The treatment seemed also to yield better results than in the asylums for the obvious reason that our cases, which were for the most part early cases, had not progressed so far as those which require institutional care. It is, however, in tabes that the most marked impression was made and I think this is in accord with experience generally.

Like Dr. Schamberg, I believe that the intraspinous method of salvarsanized serum is in addition to our treatment of very great value.

In regard to the Wassermann reaction, I consider it to be valuable confirmatory evidence. but if my clinical findings differ, for instance, if I get the clear evidence of syphilitic disease, I disregard the serologic findings even if all four phases are absent. Such findings as we all know are absent in a certain number of both tabetics and paretics; perhaps it is because antibodies are no longer formed; we are then dealing with the damage caused by the disease, by the evidence of destruction of tissue.

In regard to mercury, I have to say, that I always use it in the intervals of salvarsan injections. A very important matter must here be borne in mind, and that is that the susceptibility to mercury is greatly increased while the patient is under salvarsan therapy. There can be no question of that. I know in the days previous to salvarsan, it was almost impossible to make a mercurial impression on old cases of tabes and paresis, while at present a mercurial reaction is observed after comparatively few rubbings. I am glad to hear Dr. Schamberg say that he uses the inunctions every other day instead of every day. I personally use half a dram of mercurial inunction every other day and carefully feel my way.

In regard to the frequency of the salvarsan treatment, a word of caution is also necessary. We ought to allow an interval of ten days or two weeks to elapse; better two weeks. Whenever possible also, I put my patient to bed and see to it that the patient is full fed and rubbed and bathed, in other words, is submitted to a thorough course of hypernutrition. Hypernutrition stimulates the formation of antibodies and we know from our past experience that if, without any other treatment, we merely put the patient to bed and full feed him that remissions are frequently induced which last for months and indeed at times for several years. This can only be accounted for by the stimulation of the antitoxin forming power. Finally, if we give the salvarsan too frequently, we unquestionably do harm. Paretics instead of being benefited, undeniably have their lives shortened thereby. In order to show, further, how careful we must be in regard to our inferences, let me relate to you the following interesting fact. After we had begun our treatments by the Swift-Ellis method at Jefferson Hospital I determined to make several cross experiments and I made quite a number. I took patients who were tabetics and paretics and without giving them any previous injections of salvarsan, I took the serum, and, putting it exactly through the same process as the salvarsanized serum, injected it intraspinously; and what was the result? I found uniformly a reduction of the cell count and found that my patients also subsequently improved. Swift has had a similar experience.

Let me tell you another interesting fact. One of my staff, Dr. Sherman F. Gilpin, had a very brilliant idea. He said, "Let us drain the dural sac and then give inunctions of mercury." Incidentally it was found that we could drain our patients not only 5 to 6 c.c. but 60 to 70 c.c., and without the slightest unfavorable results. We simply had to be careful to exclude brain tumor and abscess from our diagnosis. The results of drainage alone proved to be truly remarkable. We noted almost uniformly a wonderful improvement. We noted in paresis, remissions; in tabes, cessation of pain, great improvement in incoordination, great improvement in general health. What happened in these cases? When we tap the dural sac in tabes or paresis, we find as is well known that the intradural pressure is greatly increased. Now, if the spinal cord is under great and abnormal pressure, it follows that its vascular supply must be greatly interfered with;

that is, the cord must be relatively anemic. If this pressure be suddenly reduced, it follows that the cord must become relatively hyperemic. In other words we achieve a result which is very much like that achieved by the Bier method in surgery. Our results from exhaustive spinal drainage have at times been truly remarkable.

To my mind another point of great importance for us to recognize is this: With the advance of our knowledge of the pathology of syphilis there has come, as is so often the case, a tendency to throw aside and disregard that which has been acquired by long previous experience, namely the distinction between the various forms of syphilis. Syphilis is of course one disease, but this does not justify wiping out clinical distinctions and pathologic details. I refer especially to the distinction between nervous syphilis of the exudative form on the one hand and paresis and tabes on the other. Time will not permit our considering either the details of symptoms and of pathology, but the facts must be admitted as correct beyond all question. The difference, for instance, between spinal syphilis of the exudative form and tabes is enormous. There is never any excuse for ever making an error of diagnosis. There is in the ordinary case of exudative spinal syphilis weakness of the legs. always asymmetrical, accompanied in two-thirds of the cases by a spasticity which curiously subsides when the patient sits down, and at the same time characteristic sensory losses and bladder disturbances. Such cases, especially when discovered early, present a very good prognosis. By the older methods; e. g., by the mercurials and the iodids, truly brilliant results are not infrequently achieved. In regard to tabes the story as we know is a very different one. On tabes the older methods of treatment made practically no impression whatever. Similar facts obtain, in regard to brain syphilis of the exudative form and paresis. Clinically and pathologically the pictures are radically different.

Furthermore, I have time and again seen in my clinic a husband and wife both suffering from tabes. I have never seen a husband and wife, one suffering from tabes and the other from spinal syphilis. Such an experience, it appears, does not occur clinically. After an experience of many years in the hospitals, I can make this assertion without fear of contradiction. Again, I have seen paresis in husband and wife; I have never seen cerebral syphilis of the exudative form in one and paresis in the other. Time will not permit of a full discussion of this interesting subject but I may state that I think it very probable that we have to do with two strains of the spirochete, a view to which F. W. Mott also inclines, for he says that there may be varieties of spirochetes as there are different varieties of trypanosomes, the morphologic characters of which would not permit of differentiation.

Dr. B. Franklin Royer, Harrisburg: I do not want to take up any of your time by discussing essential details of diagnosis or treatment. That is not in my line at all. It may be of interest to say a few words about the health department's activity in treating syphilis in a large way. During the life time of Dr. Samuel G. Dixon he determined on a plan of organizing a chain of dispensaries offering free treatment to those without funds. Unfortunately, that work was delayed during the period preceding the war because of the difficulty in getting essential preparations for intravenous medication which made the dispensary of greatest value. One dispensary was opened here experimentally in August, 1916, but it was not until after his death that the large dispensary system was organized and today it is not complete. We now have twenty-one dispensaries operating in populous centers in the commonwealth and hope by next week to have thirty-two. Arsphenamin may be administered by those specially trained to all persons without funds. There must be many in the practice of physicians who are wholly unable to pay the high cost of modern medication. These patients we gladly have referred to the state dispensaries and gladly treat without cost to them or the family doctor.

It may be of interest to you to speak of the proposed cooperative plan in connection with the courts in handling those who are criminals or quasicriminals and the immoral classes. In cooperation with judges, mayors, and committing magistrates measures have been devised by which they may bring the pressure of their courts to bear to induce those with syphilis and gonorrhea to seek treatment. In one day recently fifteen persons were brought from the Dauphin County jail to the dispensary and given intravenous treatment. We hope this plan of cooperative procedure will so work out that every infected criminal or quasicriminal may get treatment at the hands of the city or the commonwealth. The war, of course, greatly increased the need of this sort of thing and popularized the movement. Another thing in which the state has taken a far-advanced step is in hospital care. In this particular line of work the Board of Medical Education and Licensure led off, the State Board of Charities and the Department of Health joined in their recommendation. The hospitals of the state have been induced to do their duty in admitting cases of syphilis and gonorrhea when they need bed care. Out of 172 hospitals receiving state aid 152 have facilities for handling venereal diseases and are in agreement with the Department of Health to admit such cases when properly recommended for admission. One hundred and forty-five of these hospitals in addition to the thirty dispensaries of the department are equipped to control the intravenous medication by checking with the Wassermann. While these facts do not bear particularly on the paper by Dr. Schamberg, I feel that they are of sufficient interest to give to the medical profession in this way.

Dr. John A. Lichty, Pittsburgh: I think as clinicians we cannot cease to be thankful for what has come to us in the last decade or so in the knowledge of syphilis and I think we cannot cease to be thankful that we have in our own country such a man as Dr. Schamberg, who has carried on this work and made it possible to go on with treatment as we did before the war. I heard Ehrlich's paper in London at Kinsington Garden at the last International Congress. It was a wonderful paper in which he tried to explain why the salvarsan did not quite meet the expectations. I thought I learned a great deal from it, but Dr. Schamberg has given us in his short paper more facts than we got in that long paper before an audience which probably will not occur again in many decades.

The clinical facts which I wish to refer to this morning are these: In the early treatment of a condition in which syphilis was supposed to be the etiologic factor, such as aneurysm, we were told to treat these conditions carefully with antiluetic measures as we might get results which might end fatally and when arsphenamin came into use this idea of course was still with us and we were very careful in the use of this remedy in aneurysm. I would like to speak of three cases which have come to our service at the Mercy Hospital in which Dr. Maclachlan, my associate, took up the treatment with arsphenamin with most remarkable results. Men who had substernal pain and could not walk on account of the pain, one of them particularly now is working in a munition factory, is lifting heavy shells, heavier than we are allowing him to lift. We gave him this treatment two years ago and he seems perfectly well, although we still see a shadow with the roentgen-ray examination. Two other patients have done almost as well and we do not hesitate now to use this remedy in aneurysm. In two other cases of so-called Banti's disease, in which we found the reaction to the spirochete, we used arsphenamin with most remarkable results. In fact, these patients are practically well and results after small doses of arsphenamin were almost immediate, so that I think we need not hesitate to use arsphenamin, or mercury, or iodid more freely in these patients than we were taught some years ago. The question which Dr. Dercum has brought up, that is, the drainage of the spinal canal and the administration of salvarsinized serum, etc., we sometimes question whether it was the drainage or the administration of the arsphenamin which produced the remarkable results. In tabes we really get remarkable results. The patients get up and walk. They were relieved of their pain. I think we can look on this as proving that both measures are helpful. We drain, we take something away. I think we have the same example in our great crises. It makes little difference whether we make the enemy a prisoner or bayonet him, he is out of the field of action. I think both measures are helpful, especially in the treatment of tabes dorsalis.

Dr. Schamberg, closing: I am in complete harmony with Dr. Dercum in advising the conservative treatment of tabes, paresis and cerebrospinal syphilis by a treatment not too intensive as regards dosage and frequency of administration. In late nerve syphilis we can afford to give small doses of the drug administered intraspinally and also make the periods of treatment not too close. In the general treatment of early syphilis we must take the reverse course. We must use as intensive treatment as can be applied with safety to the patient because here it is our desire to sterilize him of the parasite which is potent for so much harm to him. Spinal drainage I think to be of distinct value, either alone, as Dr. Dercum suggests or, preferably, associated with intravenous administration of arsphenamin, because the resultant lowered pressure in the spinal canal would favor the osmosis of the arsphenamin in the blood stream into the spinal fluid. I would like to emphasize the fact that there have been fatalities after arsphenamin from time to time which has caused physicians to believe that this drug is much more dangerous than mercury.

We must realize that there have been many deaths reported in the literature from the use of mercury, and many more deaths which have never been reported, because deaths from mercury are slow and insidious and are commonly not attributed to the cause which produced them. Arsphenamin deaths on the other hand are rapid and readily attributed to the real cause. I was interested in the remarks made by Dr. Royer concerning the activities of the state in the control of syphilis. Syphilis is, with the possible exception of tuberculosis, the most widespread infectious disease. The English Royal Commission on Venereal Diseases estimated that 10 per cent. of the population of England were suffering from syphilis. The percentage in this country cannot be much less. There are syphilographers who give a higher estimate. Syphilis touches the practice of every physician in the country. It is our most important public health problem. We know the parasite of the disease, we possess a valuable test for the detection of the disease, and powerful remedies to combat the infection. I believe that, from the public health standpoint, with proper financing and with highly intelligent organization, the evils of syphilis could be largely overcome.

THE MEDICAL CONDITIONS AND DEVELOPMENTS IN PREVIOUSLY RECOGNIZED COMPLAINTS DUE TO WAR EMERGENCY *

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It will be imperative, on account of the time limit of papers under which this society is conducted, to consider only the more important new developments in medicine which have been due to war emergency. It is my purpose to discuss these singly and briefly as related to individual diseases, believing that this will prove to be the most satisfactory method of dealing with the subject in hand.

One of the main objects of this presentation is to emphasize the increasing importance to the medical profession of America as hostilities progress, of the newer medical developments resulting from the present great struggle. Not only those physicians who belong to the Medical Corps of the Army and Navy, but also civilian physicians will be and, indeed, have already been faced by new situations and conditions, and with these they should acquaint themselves at once, in order to be prepared to deal with them as they arise.

VINCENT'S ANGINA

Occasionally met with prior to the present war, Vincent's angina has shown a greatly increased incidence under military conditions. Says Bouty[1]: "In times of peace, this disease forms about 2 to 3 per cent. of all cases of throat complaint among the French Army. Recent statistics from a British military hospital in France show the proportion to be as high as 23 per cent. of all throat conditions." Greeley

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* Read in the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

[1] British Med. Jour., Nov. 24, 1917.

writes: "Among civilians during the last few months, I have noticed an apparent increase in the number of tonsillar and pharyngeal smears, met with both in hospital and private practice, even over the usually increased winter incidence, that show the fusiform, spirilliform organisms identified with the condition."[2]

I observed a case of Vincent's angina, which became complicated with diphtheria, in a sailor suffering from pneumonia, admitted to the Red Cross General Hospital No. 1 during February last. The complaint is now prevalent to an extent that would, it seems to me, justify its being made a reportable one. Among predisposing causes are debilitating environment and previous diseases, as well as such local influences as gingivitis, excessive smoking and chewing, and decayed and uncared-for teeth.

My own case, mentioned above, terminated in recovery, but some of the military cases recorded in literature proved fatal preceded by extensive membrane formation and ulceration, great prostration, high fever, albuminuria and acute nephritis. A complete diagnosis, it is to be recollected, demands not only smears, but also the isolation of the fusiform, spirilliform organisms identified with the complaint.

The treatment is both preventive and curative. Topical applications of iodin, hydrogen peroxid, and other lotions form an essential part of the management. Vaccines have also proven themselves useful in the treatment of this complaint. The preventive measures have reference particularly to the teeth, which should be kept in good condition, and the immoderate use of tobacco should be carefully avoided.

PNEUMONIA AND EMPYEMA

The war has added new phases to certain leading infections and conspicuous among these is pneumonia. Cumming, Spruit and Lynch, as the result of their studies in military camps, classify pneumonia into two main groups, primary pneumococcus and primary streptococcus pneumonia and a subgrouping, primary pneumococcus and secondary streptococcus pneumonia.

Cole and MacCallum[3] found streptococcus hemolyticus in all of twenty-six cases of pneumonia with complicating empyema. The Empyema Commission of Camp Lee[4] found the hemolytic streptococci alone in the fluids obtained by aspiration of all of their cases associated with pneumonia. They advise treatment by aspiration repeated as necessary, and intrapleural disinfection with Dakin's solution. Free drainage is strongly advised, but evacuation by radical operation involves greater risks, without compensating benefits.

At Camp Upton, Brooks and Cecil found the organism present to be equally divided between the streptococcus and the pneumococcus. Of the streptococcus cases, "thirty-five showed the comparative frequency of occurrence of measles and bronchopneumonia at our camps." The increased invasive power of the streptococcus has been further shown by the streptococcus hemolyticus. Col. William H. Welch states that the enhanced virulence of the streptococcus is the most important problem in dealing with infections of soldiers in the present war. The mortality rate in empyema due to the streptococcus viridans and streptococcus hemolyticus has been not less than 75 per cent., while in the empyema of pneumonia caused by the pneumococcus, recovery is the rule.

A roentgen-ray examination has been found to be a valuable aid to diagnosis, showing as it does a limited pneumonic consolidation, in cases in which the physical signs are indicative of bronchitis only. In the treatment of this disease, Cumming, Spruit and Lynch[5] recommended triple vaccine consisting of the hemolytic streptococcus and pneumococci Types I and II. It has been the experience of many camp surgeons recently that to operate early increases the death rate in streptococcic empyemas. I would strongly advise that special efforts be made to minimize mouthbreathing.

DISORDERED ACTION OF THE HEART OF SOLDIERS

The cardiac disabilities of soldiers, particularly the so-called "soldier's heart," or the "war tachycardias," or "neurocirculatory asthenia," are both interesting and important. Hume[6] has detailed the results of an inquiry into the cardiac and circulatory conditions of 5,000 soldiers. Of these, 8.3 per cent. were found to be suffering from easily recognizable diseases that were in no way circulatory in origin, while the remaining 91.7 per cent. of patients complained chiefly of breathlessness, pain in the chest, palpitation, giddiness and other less easily definable symptoms.

In this group Hume found only fifty-three cases of organic disease of the heart, in which were included three cases of tachycardia, although 169 cases had been sent with a frank diagnosis of valvular disease. He ascribes the proneness to make a diagnosis of organic disease of the heart, as other writers have done, to a misinterpretation of systolic murmurs heard in the region of the heart, and especially at the apex. It is now generally held that a systolic murmur, unaccompanied by evidences of hypertrophy and dilatation of the heart, can be safely disregarded.

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[2] Horace Greeley: Amer. Jour. Med. Sc., May, 1918, p. 742.

[3] R. Cole and W. G. MacCallum: Jour. Amer. Med. Assn., April 20, 1918, p. 1146.

[4] Report of Empyema Commission, Camp Lee, Jour. Amer. Med. Assn., Vol. 71, p. 443.

[5] Jour. Amer. Med. Assn., April 13, 1918, p. 1066.

[6] W. E. Hume: Lancet, London, April 13, 1918, p. 529.

Hume found that of the patients with obvious valvular disease of the heart (53 in number) 56.5 per cent. had suffered from rheumatic fever, while many were found among convalescents from infectious diseases, *e. g.*, the enteric group of fevers, influenza and trench fever. Crouzan and Manger noted in over 50 per cent. of ninety cases of war tachycardias a history of typhoid, acute articular rheumatism, or other infectious diseases. On the other hand, Aubertin[7] calls attention to the power of psychic influence, as shown by the tachycardia that develops in men (who fear injection) being examined for the aviation corps. Says Hume, in the tachycardias following shell shock and in neurasthenics, the fault lies in the nervous innervation of the heart, rather than in the heart muscle itself.

Here may be given Allbut's view of the "soldier's heart," which he holds is not due to strain. He suggests the term "pano-palmosis," a compound word, which means palpitation on effort, and is descriptive of the nature of the complaint. Lewis prefers to use the term "effort syndrome," believing that it is unwise to label this group of symptoms with a term which suggests to the soldier and others that the heart is primarily at fault.

While there is obviously some confusion as to the pathogenesis of the condition, three classes of cases are readily recognizable: (*a*) those originating in faulty nervous innervation of the heart; (*b*) a large group occurring in soldiers in whom previous acute infections (toxemias) have produced myocardial exhaustion, including men who, previous to military training, suffered from a lack of physiologic cardiac reserve, or an undiscovered myocardial lesion, and (*c*) those arising from a varying degree of hyperthyroidism. In all of these groups, the mental and physical stress of a soldier's life is apt to induce the syndrome under discussion.

Musser[8] has described the symptoms of the disordered action of the heart of soldiers in detail, and justly affirms that the classical paper of the late Dr. J. M. DaCosta[9] presents the complex of the present-day picture most accurately. The diagnosis of the condition is free from difficulty, as a rule, and rests for the most part on such outstanding features as tachycardia or increased pulse rate, dyspnea, palpitation, precordial pain or distress and vertigo.

The physical examination, apart from acceleration of the heart's action, especially under exercise, reveals nothing of diagnostic import. Sir James MacKenzie's[10] dictum that the functional capacity of the heart is the criterion on which hearts must be judged, not the presence or absence of murmurs, is now generally accepted.

The most important factor in the treatment of this condition is "the abolition from the patient's mind that he has a diseased heart." Says Hume, "good food, undisturbed sleep and outdoor exercise, regulated and under discipline, are the sole factors necessary for the improvement of all types. By this method, from 50 to 60 per cent. can be sent back to their original work after four to five weeks." He continues, "apart from those who suffer from actual heart disease or organic disease of other systems, nearly all are fit for some service in France."

Lewis[11] and his associates have submitted nearly 3,000 patients with diagnosis of "D. A. H." (disordered action of the heart) or "V. D. H." (valvular disease of the heart) to graded drills without a single accident of consequence.

TUBERCULOSIS

There can be no doubt but that the war has brought about a higher incidence of tuberculosis in certain foreign countries, at least notably, France. It would appear to be equally well established that in the majority of cases the cause is endogenous reinfection, although a not inconsiderable percentage can be accounted for on the basis of a primary exogenous infection.

As pointed out by Major Edouard Rist,[12] the exaggerated statements which were published in this country concerning tuberculosis in France and the French army arose from the fact that civilian physicians called to army life are too prone to make the diagnosis of tuberculosis on very slight evidence. He continues: "Out of 1,000 men sent back to a base hospital in France as suffering from pulmonary tuberculosis, all but 193 were returned to the front with the diagnosis not confirmed."

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[7] C. Aubertin: Presse Medicale, Paris, Jan. 24, 1918, p. 37.

[8] J. H. Musser, Jr.: Amer. Jour. Med. Sc., June, 1918, p. 883.

[9] Amer. Jour. Med. Sc., 1871, lxi, p. 17.

[10] Quoted by Musser: Amer. Jour. Med. Sc., June, 1918, p. 883.

[11] T. Lewis: British Med. Jour., March 30, 1918, p. 363.

[12] Rist: Editorial, Jour. Amer. Med. Assn., Oct. 13, 1917, p. 1266.

Prophylactic inoculations against typhoid have been incriminated as a cause of the higher incidence of tuberculosis in our armies and prospective soldiers, but this hypothesis has not been found, on investigation by Russell, to be tenable.

Beauchant[13] has made a special study of the influence of the campaign on pre-existing tuberculous affections. He examined 1,206 cases of verified tuberculosis during a seven months' period. Of 302 soldiers with a history before the war of pleurisy with effusion, hemoptysis, bronchitis with emaciation, or marked derangement of the general health, two out of three rendered satisfactory military service. In only 10 per cent. has the disease developed into the progressive type; and the flareup came late in the campaign. Per contra, Italian war experience indicates that tuberculosis usually develops within a month or two after a soldier's entrance into active service. The Italian authorities feel that the stress of service is so liable to fan a latent tuberculosis into a flame that the most searching tests are now applied to keep out of the army those with tubercle bacillus infection in any form and in any stage.

It is extremely difficult to reconcile our positive knowledge concerning the existence of latent or inactive tuberculosis in most adults with acquired immunity, with standards to be set up by army medical examinations. For example, the proportion of veils or special shadows on radioscopy and on roentgen-ray plates has been estimated to be 63 per cent. To reject recruits on this evidence alone is unwise, yet this has too often been done.

According to the noted phthisiologist, Sergeant,[14] the most trustworthy physical signs of a lesion of the parenchyma of the lung are "dulness, hemoptysis, increased fremitus, 'clicks,' and a veil or shadow at the apices, fixed, not modified by cough with striae and fly spots on the plate."

Lopez,[15] on the other hand, states that, in examining recruits, the first points to be investigated are the hilus, the region around it and the base. He claims that an isolated tuberculous process at the apex is found in a very few cases. In my view, the examiner of recruits should rely quite as much on a history, presence or absence of fever, the pulse, the detection of bacilli in the urine and of antibodies in the blood, as on the physical signs and roentgen ray findings. Again, search for tuberculous lesions should not be restricted to the lungs, but the examiner should seek for them in all other organs of the body.

Maragliano contends that the only question should be, "Has the man any kind of tuberculous affection? If the answer is affirmative, then there is only one thing to do, the man should be eliminated from the army." Says Thomas McCrae: "Signs of any pulmonary disease should justify rejection." In the experience of the British and German armies, however, military service has been beneficial to the men with healed or arrested tuberculosis, and many of them have made excellent soldiers. Says Bushnell[16]: "Military life in campaign tends to create and maintain a vigorous and robust army." Says Stewart[17]: "The bad effects of war on tuberculosis have been neutralized by the good effects of mobilization." He further claims that army tuberculosis is caused chiefly by acute infections of the upper respiratory tract.

In the soldiers on active service, primary pleurisy was the most frequent form in which tuberculosis developed for the first time. In this category there were 210 out of the 1,206 cases studied by Beauchant of a rapidly progressive type, 159 of the primary fibrous form and 113 of the attenuated variety. Among exciting causes noted in progressive cases were antityphoid vaccination in two cases, in which hemoptysis and typical tuberculous pneumonia developed, three cases were due apparently to the inhalation of drift gas, and a number to trauma of the chest. Among predisposing factors are anxiety, fear and mental worriment. The most menacing precursor of progressive pulmonary tuberculosis, however, is pleurisy with effusion. As pointed out by Morichau-Beauchant, instead of passing these men and those showing hemoptysis from the hospital back into the trenches, they should be collected in special sanatoria where graduated out-of-door work would aid them in regaining their health and strength.

To meet the needs of rejected tuberculous recruits and those invalided home on account of tuberculosis, is an important problem. The former class demand followup examinations and instruction in preventive measures as well as institutional treatment with a view to removing their handicap and thus rendering them fit for active service in the civilian army, at least. In Italy this class is, if they need treatment, pensioned for three years, the family receiving financial aid. In Pennsylvania those invalided home from our cantonments as the result of physical examination by experts are cared for by the State Department of Health, which receives the names and addresses of the tuberculosis subjects from the National Association for the Study and Prevention of Tuberculosis.

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[13] Morichau-Beauchant: Progres Med., Paris, July 14, 1917.

[14] Vide Editorial, Boston Med. and Surg. Jour., Aug. 2, 1917, p. 160.

[15] J. A. Lopez: Semana Med., May 17, 1917, p. 569.

[16] G. E. Bushnell: Jour. Amer. Med. Assn., March 9, 1918, p. 663.

[17] Jour. Amer. Med. Assn., Sept. 14, 1918.

The cases that are the result of a flareup in men who entered the military service, with latent forms of tuberculosis, should give us most concern, as they are far and away the larger group. The tests that should be applied to keep these latent cases out of the service cannot, in my view, be too stringent. For the "flareups" after the more acute disturbances have subsided, light forms of work should be provided to aid convalescence. The question, however, whether they should be sent back into the trenches is still a moot one.

There are at the present time a number of large sanatoria to ensure suitable treatment of tuberculous soldiers, scattered over the United States. No other country, however, has made more efficient provision for its tuberculous subjects in the military service than has Italy. It is a matter of common observation that the cases of tuberculosis, which develop during active military service in persons previously free from all evidence of the disease, pursue a more rapid course than in those occurring in a civilian population. For such cases, regional hospitals should now be provided by each state and all of the larger municipalities of the country, if the added demand in consequence of the war is to be met. Certain states of the Union, notably New York and Massachusetts, are making ample provision for advanced cases. Italy has no less than eleven institutions for advanced cases. Our state is in great need of institutions or hospitals for the segregation of this class of patients.

MENINGOCOCCIC CEREBROSPINAL MENINGITIS

Epidemic cerebrospinal meningitis is one of the well-known diseases that has been grappled with successfully by physicians in the military service. The important lesson taught by their experiences with this disease may be summarized in a single phrase: Early diagnosis and prompt treatment with serum. The latter has proved efficacious. McConnell, Morris and Seehorn instituted the serum treatment in their thirty cases, "just on the gross appearance of the fluid (on lumbar puncture) without waiting for any further confirmation of the diagnosis." Acute symptoms of anaphylaxis have been rare —an experience which tallies with that related in the British report. On the other hand, serum sickness and urticaria have not been uncommon complications.

SO-CALLED SPANISH INFLUENZA

This term has been applied to a widely prevailing febrile epidemic, which had its origin in Spain and later swept over the armies of Italy, Germany, France, England, in short, all Europe, finally reaching the United States. Montefusco, however, insists that the infection is the so-called three-day fever and not influenza. Little, Garofalo and Williams[18] declare with equal vigor that the present pandemic is called influenza for want of a better name, but cannot be so regarded for the following reasons: 1. The clinical course, though similar to that of influenza, is of very short duration, and there is, so far as they have observed, an absence of relapses, recurrence or complications. 2. The present epidemic is not characterized by a sharp leukocytosis and polynucleosis, but rather by a very slight leukocytosis with a proportional lymphocytosis of the small mononuclear variety. 3. The organism of influenza, namely, *Bacillus influenzae,* was in all cases absent and there was present with no exception a gram-positive diplococcus.

Various organisms have been found by different observers, *e. g., Micrococcus catarrhalis,* the influenza bacillus, the streptococcus and pneumococci. Unanimity of opinion as to the bacteriology of the condition, therefore, does not exist at the present. Doubtless one of the chief modes of spreading is by droplet infection.

While the general opinion is that we are experiencing a pandemic of influenza, such as prevailed in 1889-1890, in view of the above observations coupled with the fact that convalescence is reported to be rapid and complete, as a rule, should lead us to accept this view with due caution and reserve.

TRENCH NEPHRITIS

Trench nephritis, which differs from the acute nephritis of civil life with respect to its clinical features and course, has claimed the special attention of English writers. Pathologically considered, it may be looked on as a mild variety of acute glomerular nephritis.

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[18] Lancet, July 17, 1918.

"The most constant and distinctive lesion in the kidneys is limited to the capillary blood vessels of the glomeruli; it is due to the presence in the blood stream of a mildly irritant agent of unknown nature." Similar changes occur in certain cases of scarlet fever, but it is not stated by writers on trench nephritis whether any connection between these two complaints, as they occur in the Army, has been traced.

Dunn and McNee[19] have analyzed fifty-one cases of war nephritis, and suggest that the high albuminuria, often without obvious blood, the absence of oliguria, the frequent rapid decrease in the amount of albumin, the predominant dyspnea, and the general healthy appearance of the patient while characteristic signs of nephritis are present, give collectively a rather characteristic picture, differing from that of the average case of acute nephritis at home. The peculiarities of this subvariety have been epitomized by Sir John Bradford[20] as follows: "Rapid subsidence of well-marked renal dropsy; frequent presence of bronchitis and dyspnea; severity and suddenness of onset of uremic manifestations, such as epileptiform seizures; rarity of occurrence of inflammatory complications, and an extraordinarily low mortality." Keith and Thomson[21] studied thirty-three selected, typical cases, and these fell into two groups: 1. Resolving group, which is characterized by: (*a*) Rapid disappearance of edema accompanied by a distinct diuresis, copious excretion of chlorids and fall in blood pressure; (*b*) rapid diminution in amount of albumin in urine; (*c*) relatively good renal function. 2. The nonresolving group is characterized by: (*a*) Slow disappearance of edema and delayed diuresis; (*b*) persistent gross hematuria and persistence of albumin in the urine; (*c*) development of permanent retinal changes; (*d*) grave impairment of renal function. Relapses are common in both types. The treatment does not differ from that suitable in cases of acute glomerular nephritis as met with in civil life.

TRENCH FEVER

Trench fever was first recognized as a distinct, specific infection during the winter of 1915-1916 in northern France. About the same time, cases were reported from other places, *e. g.*, from German troops, Saloniki and Mesopotamia. Concerning this affection the following series of facts appears to be well established: (*a*) It is widely prevalent throughout the British and French armies; (*b*) the organism causing trench fever is present in the plasma of the blood, but has not yet been definitely discovered; (*c*) the period of incubation, as determined by the subcutaneous injection of whole blood taken from patients during the active stage of the disease, is from six to twenty-two days, but the period of incubation when the excreta of infective lice are applied to the broken skin averages eight days; (*d*) transmission of this complaint is probably, as intimated, through the louse, although not direct and mechanical, through bites of infective lice, as shown by the experimental labors of the Research Committee of the American Red Cross; (*e*) the prognosis is very good although anemia and disordered action of the heart are apt to follow in the severer forms; (*f*) the treatment of the disease is wholly symptomatic, and (*g*) experiments indicate a developmental cycle in the louse, which, when infected, remains so until the twenty-third day from the date of their infection. Opie, Swift, Strong, MacNeal and Peppenheimer state that the eradication of lice and by this means, eradication of the disease, is not impracticable.

The disease appears in two leading clinical types, "one in which there is a short, evanescent fever lasting from a few days to a week and frequently followed after a few days of apyrexia by a single short relapse; and a second in which there is a series of relapses of the fever interrupted by periods of apyrexia."

The onset is sudden in both types and among the symptoms of invasion are headache, dizziness, and pains, frequently nocturnal, in the shins and muscles of the legs, especially at the points of their insertion to the bone. The blood shows a relative increase in the leukocytes with small lymphocytes predominating and a reduction in the hemoglobin.

Albuminuria is usually absent. On the other hand, Mandel found albumin frequently present. Such cases, however, would seem to the writer, to be related to trench nephritis.

An assured diagnosis demands the exclusion of relapsing fever; this is only possible by a microscopic examination of the blood, which shows an absence of the *Spirochaetae recurrentis.* Dengue is distinguished from trench fever by the presence of an eruption and a different distribution of the pain.

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[19] J. S. Dunn and J. W. McNee, Jour. Amer. Med. Assn., March 30, 1918, p. 959.

[20] Bradford: Jour. Amer. Med. Assn., June 24, 1916, p. 2070.

[21] Quarterly Jour. of Med., Oxford, April, 1918, 2, No. 43, p. 229.

WAR EDEMA

German authors have described a form of edema first observed in prison camps; later it appeared in the civilian population, as a rule, in the form of epidemic outbreaks. The condition occurs mainly among the prisoners of all nationalities, who are fed on German rations only. Park points out that the condition is in reality famine edema due to purposeful underfeeding, especially in fat and protein. The edema develops rapidly, involves chiefly the lower extremities, less often the upper, the face and the serous cavities. The urine is natural except that acetone, ammonia, amino acids, uric acid and creatinin are increased. The blood is watery and shows evidence of extensive breaking down of proteins. Uncomplicated cases are afebrile. Dyspnea is only present on exertion except where there is a hydrothorax. Under appropriate management, the prognosis is good. The treatment consists of rest in bed and change of diet, so that sufficient protein and at least 100 grams of fat are eaten daily.

GAS ASPHYXIATION

Poisoning by various gases, so extensively employed by the Germans, and later by the Allies, is a subject of much interest and importance to the clinician. Modern gas warfare dates from April, 1915, and the principal gases resorted to are bromin, chlorin, phosgen (which is much dreaded because of the fact that it is invisible) and "mustard gas" or dichlorethylsulphid.

Lung quotes Riviere and Leclercq, who had under observation 112 soldiers in hospitals at Calais and found that the majority presented the symptoms of inflammation of the respiratory tract extending to the finest bronchial tubes. In others, the lung lesions were severe and took the form of bronchopneumonia or gangrene.

The findings in a fatal case at necropsy were congestion of the entire respiratory tract; infection of the digestive tube and massive degeneration of the liver, spleen and kidneys. Massive pneumonia of the right lung with gangrene here and there at the base, was also found. Lieutenant McNee, who conducted an examination in a fatal case, reported that death was due to acute bronchitis and its secondary effects.

Warthin and Weller[22] have studied the skin lesions produced by mustard gas. These are chemical burns and differ from a heat burn in the absence of thrombosis, "in the greater degree of fluid exudation, the greater moistness of the affected areas and the fact that necrosis as shown by the loss of nuclei requires hours or even days for its complete development."

"The gas is in a cylinder from which, when they send it out, it is propelled a distance of 100 yards. It then spreads" (Haldane). It is said that the effect of the gas is experienced at a distance of 3,000 yards. Asphyxiating gas bombs are also dropped from airplanes. These endanger the lives of the civilian population, *e. g.*, when dropped on a city.

The clinical picture with asphyxiating gases is variable. Voivenel and Martin[23] state that the milder forms are of three types: the pulmonary with spasmodic cough and a few rhonchi, but the pulse and general condition are good; the gastro-intestinal type with abdominal and epigastric pains, constipation and nausea, and the nervous with headache and backache, muscular weakness and a dazed condition. These various types may be blended.

In the severer forms, the patient is harassed by dyspnea and constant cough; there is an abundant serous expectoration, which is rose-colored and frothy, and at times, frankly bloody. Riviere and Leclercq observed in their 112 cases that, on admission, the eyes were watering and the eyelids swollen; the cheeks and lips were violaceous red, and the features drawn and pinched. The color appearance of the skin is usually described as gray, tending in aggravated cases toward a grayish-black hue (livid type); the bluish discoloration or cyanosis, is due to the bronchitis caused by the irritant gases.

Voivenel and Martin observed men to die of subacute edema of the lung causing asphyxiation, as if they were drowning. Schafer's experimental studies show that chlorin gas kills by producing an intense engorgement of the pulmonary capillaries and an extraordinary amount of edema in the interstitial tissue of the lung. The men gasp for breath, lean their heads down to let a black, viscous, bloody fluid escape from their lungs, except when coma is too profound. In a majority of the cases, there are few signs referable to the lungs, while in a minority, physical examination reveals consolidation peculiar to either massive, or more commonly, bronchopneumonia.

In these severe types of gas asphyxiation the pulse is fast and feeble and over half the men who reach the hospitals die, while those who survive the gas, invariably develop pneumonia.

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[22] A. S. Warthin and C. V. Weller: Jour. of Labor. and Clin. Med., St. Louis, May, 1918, p. 447.

[23] P. Voivenel and P. Martin; Progrès Médical, Paris, Sept. 1, 1917, p. 288

The patients show much agitation and frequent sudden starts, as a rule, although rarely, they become dazed and apathetic. Voivenel and Martin observed suprarenal insufficiency, especially white dermographism in nearly all of their cases. This fact explains the marked and persistent asthenia in these cases, and also the decided success from the use of epinephrin in their treatment.

The most conspicuous symptoms of mustard gas poisoning are conjunctivitis, laryngitis, bronchitis and skin burns. Pulmonary edema and bronchopneumonia are possible complications. The recognition of the symptoms in this form of "gassing" is usually delayed, in some cases as long as sixteen hours.

The best prophylactic measure is the mask within the folds of which is held some absorbent chemical, the most efficient being sodium hyposulphite and sodium carbonate. The Academy of Medicine in Paris has recommended the following formula: Sodium hyposulphite, 1,000 grams; sodium carbonate, 200; glycerin, 150; water, 800.

In the treatment of soldiers who have been "gassed," it is claimed that the rhythmical inhalation of oxygen under pressure (Chassevant's method) has the effect to calm the dyspnea, favor aeration of the lungs, and render unnecessary the patient's painful efforts at inspiration. "A rubber tube is introduced far back in the buccal cavity and is connected with a cylinder of compressed oxygen. By opening and shutting the regulator key, active rhythmic insufflation at the rate of 15 to 16 to the minute is brought about."

To combat cardiac weakness, camphorated oil in doses of 5 to 15 c.c. per day has been found useful. In mild forms, a spray of hyposulphite of sodium has been extensively employed. Medicines have been found to be of little use, and individual cases are to be treated as circumstances arise.

NEW INDUSTRIAL POISONINGS

The war has brought about new industrial occupations connected with the manufacture of high explosives, which occupations are attended with danger from poisonings. Dr. Alice Hamilton has described the nature and extent of these industrial poisonings in Bulletin No. 219 of the Federal Bureau of Labor Statistics, which should be in the hands of every practicing physician, since these cases are not only encountered by industrial physicians but also by those in civil practice and, unfortunately, too often go unrecognized. It is a matter of common knowledge that the manufacture of high explosives is rapidly growing in this country, and as a consequence new poisonous gases are developed and manufactured. These new and dangerous processes require infinitely more close observation and consideration than they have thus far received. Moreover, it has been well said that "among the many new and urgent problems of industry in war time, none challenges our best thought more sharply than the replacement of men by women workers."[24] For example, the question whether the latter experience more serious effects than men from the various industrial poisons calls for strict periodic supervision and further careful consideration.

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DISCUSSION

Dr. Thomas McCrae, Philadelphia: There is a very widespread opinion that work in the Army largely means surgery. The paper of Dr. Anders must have suggested that there are problems other than surgical ones, and, as a matter of fact, the medical service in the base hospital is usually larger than that of the surgical side. The cases of disturbed action of the heart, "D. A. H." as they are termed, are the bane of every medical man in the Army. Probably many of you have seen patients discharged from the American Army because of D. A. H. There is very little evidence of disturbed internal gland secretion being a cause. An important factor is the nervous element. I should like to emphasize that there is nothing in D. A. H. as seen in the Army which one does not see in civil life. Many of the men in the Army never get to war; some are discharged in the camps here. One big problem in this connection is the part played by tobacco. I think most men who come in contact with the cases have felt that while tobacco may not have been the original cause of the condition it plays a large part in aggravating it when once present, and the problem is a very difficult one to handle. When forty cigarets are used a day it must be realized that a man is taking a drug which poisons him. They help him, just as morphin or opium would, to take the edge off his sensations. Many have a tobacco idiosyncrasy. You find that a man who is using only eight to ten cigarets a day cannot smoke more because it upsets him. You realize then that a man may be smoking too much, whether he smokes eight or forty cigarets a day.

As regards nephritis, take a single case and you may say it looks exactly like what you would expect any streptococcus nephritis to show. But if you have one hundred cases under your care all showing the same features you begin to doubt. The persistence of hematuria deserves particular attention. Other symptoms clear up but the hematuria continues for weeks and months. It is to be feared that there will be a large number of patients left with chronic nephritis. With the persistence of albuminuria and hematuria for months there is not much hope of the patient getting back to normal.

As regards the gassed patients, it is a big problem to determine how much permanent damage is done.

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[24] Some Considerations Affecting the Replacement of Men by Women Workers; Amer. Public Health Jour., March, 1918.

The physical examination may show no evidence of change after recovery from the acute condition. That, however, does not mean that they are not damaged. This is one of the most important questions to be settled. The subject has been so written up that many men feel that if they get a whiff of gas they have been injured for life and the psychic element enters largely in these cases. The possibility of damage to the respiratory mucous membrane is important and this is important to recognize. In some of these cases the capacity for respiratory exchange is lowered. The man to ordinary appearances is sound and well, but with heavy work or exertion he has to stop on account of dyspnea, which generally passes away quickly. The estimation of the respiratory exchange seems to offer the best means of determining whether definite damage has been done. It will be a difficult thing after the war for those on pension boards to decide this question.

Regarding the civil population, there is one interesting problem; there is no disease from which the death rate is increasing so steadily as diabetes mellitus This has gone hand in hand with our increased sugar consumption. Will the sugar rationing have an effect on the incidence of diabetes mellitus?

Dr. A. E. Blackburn, Philadelphia: Regarding the question of influenza mentioned in Dr. Anders' paper, there is no doubt that in the last ten days or two weeks influenza has increased enormously, and we civilian physicians will have to take care of it. I find that the hospitals will not admit to their wards or private rooms patients suffering with supposed Spanish influenza. The disease cannot be diagnosed until the organism has been isolated, and that, ordinarily, cannot be done at home. Therefore, what will become of our people? So far as I know, there are only two hospitals in the city of Philadelphia now prepared to take care of these patients. One of these is the Philadelphia Hospital. Dr. Doane, chief resident physician, has prepared a ward which will accommodate 100 patients and accord all the necessary isolation which he proposes to carry out. It does seem to me that we as physicians and members of medical boards of the hospitals must realize that the hospitals must be prepared sooner or later to care for these cases and that such preparation might just as well be made now. If the epidemic increases in the next month as it has in the last ten days the mortality will be terrific.

Dr. A. E. Roussel, Philadelphia: I am astonished at the statement regarding the refusal of the hospitals to take influenza cases. Neither the Polyclinic nor the Howard Hospital, where I am visiting physician, refuse to take either cases of influenza, bronchial and of lobar pneumonia, the secondary conditions. Regarding the fact that we are at present having in Philadelphia very widespread, almost pandemic influenza, I remember the epidemics of 1889-1890-1891. I have thus far seen eleven cases of pneumonia, nine of them bronchopneumonia in adults. Most of the cases of influenza appear to be of the respiratory type. You will remember that in the previous epidemic we had different types: the respiratory, the nervous, the cardiac, and gastro-intestinal type. Those in Philadelphia today are largely of the respiratory type. Regarding the specific organism, we know that the Pfeiffer bacillus has in recent years been absent from Philadelphia. Six weeks ago a case was brought into the Polyclinic Hospital apparently with influenza, and on examination we found the Pfeiffer bacillus. One point of interest I think is that to find the Pfeiffer bacillus it must be discovered in the first four or five days; after that time it is overwhelmed by the streptococci and other organisms.

Tachycardia observed in the camps and active service is similar to that seen in civil life and is in many instances due to hyperthyroidism. In three cases under my observation I had the vessels supplying the gland ligated. In another case intensive doses of roentgen ray were given causing atrophy of the gland. In two of the three cases the tachycardia had lasted for one or two years; in the other, a relatively short time. I have been a member of the advisory board with Dr. Anders and during the past summer months I have had sent to me for examination of the heart quite a number of patients with tachycardia. I have insisted that in each case the patient should enter the hospital for three days before I would pronounce an opinion. It is of interest to note that in over 75 per cent. the tachycardia disappeared within twenty-four to forty-eight hours. For the first twenty-four hours they were kept in bed and subsequently encouraged to take active exercise. Quite a proportion of these had a fine tremor. I am firmly of the opinion that a certain number of these individuals had been given thyroid extract. To those of you who are members of the advisory and draft boards I would suggest that the men be referred to the hospital for a three days study. I have no proof of the suspicion but am strongly of the opinion that many of them have been dosed with thyroid. In one instance we found a man taking a capsule who explained that he had been given it for a cold.

Dr. Anders, closing: If I understood Dr. McCrae correctly he did not believe that infection played an important rôle in the etiology of cases of disturbed heart action. Lewis, Crouzan and Manger, however, found that a large percentage of the cases give a history of preceding acute rheumatism, typhoid fever or some other acute infective process. I mention this simply to show the lack of unanimity of opinion which obtains on this question.

With regard to tobacco, it seems unfortunate that soldiers cannot get on without so much of it as is now being used. It would seem that there must be a distinct causal relation existing between excessive smoking and the disordered action of the heart of soldiers. Tobacco is also held to be one of the causes of the largely increased incidence of Vincent's angina. This complaint formerly represented from 2 to 3 per cent. of the admissions to certain hospitals, whereas, since hostilities commenced the percentage has risen to from 23 to 25 per cent. There must be some specific reason for this, and overindulgence in tobacco undoubtedly is a marked predisposing cause of Vincent's angina.

With reference to trench nephritis, I said that the lesions seemed to simulate those of acute glomerular nephritis, such as we see in scarlet fever. Certain writers claim that the hematuria is not much more common in trench nephritis than in the glomerular nephritis of civil life, but Dr. McCrae's observations showed a greatly increased percentage of cases in which this symptom appeared. Dr. McCrae is doubtless correct when he predicts an increased incidence of chronic nephritis traceable to trench nephritis among returning soldiers. The chronic nephritis that follows the acute Bright's disease of scarlatina may be looked on as an analogous condition.

THE PLACE OF THE MEDICAL INSPECTOR IN PREVENTIVE MEDICINE*

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It is a trite saying, but worthy of frequent repetition, that "we are learning many things in the great war." Some of them are political and some of them are financial, but many of them are medical. For instance, we fancy that the path of the antivaccinationist will be a stony one after the war. When the millions of young men who have seen the efficacy of vaccination and serum therapy return to their homes, we expect a new attitude of the general public along these lines. And when they return, filled with the knowledge, born of experience, of the protective power of isolation in the matter of the infectious diseases, surely we can expect a new attitude by the public in the matter of quarantine and quarantine enforcement. Too frequently in the past the effort of the quarantine officer to prevent the spread of the contagious diseases has been met with open hostility or covert evasion. Surely we have reason to expect a big improvement in the attitude of the general public in such matters. Further, there is real probability that from this enlightened public will come a demand that the preventable diseases shall be prevented. The reasoning will be simple and direct. The Army has prevented the spread of such diseases why cannot the same thing be done in peace time. "Why shall we lose more children in time of peace from diseases that can be prevented than we lost of our soldiers in time of war?" And the question will have to be answered.

One of the first steps in an effort to overcome any communicable disease is to find its age incidence. In noting the age incidence of whooping cough, measles, diphtheria, and scarlet fever, we are immediately impressed that they are very largely diseases of childhood. A further consideration shows that they are also largely diseases of school age. Careful studies in this country and England have apparently proven that these diseases should be called "school borne." Some few statistics as to their prevalence will aid us to understand the importance of that statement. We had in Pennsylvania during the past few years, on the average, of whooping cough, 15,000 cases and 1,000 deaths; measles, 40,000 cases and 900 deaths; diphtheria, 16,000 cases and 2,000 deaths, and scarlet fever, 13,000 cases and 800 deaths.

The next step after discovering the age incidence is to endeavor to find the best method of prevention. Evidently schools cannot be closed. However, if the state says to the parent, "From the age of six years to fifteen years you must send your child to school," the parent has a perfect right to say to the state, "Then it is up to you to protect my child from the school-borne diseases."

An examination of the scope of the plans of the State Department of Health to handle these great questions will, we believe, reveal much that is interesting and important. According to this plan each county has a county medical inspector who must be a physician, and a sufficient number of health officers to properly cover the territory. The health officers are not physicians, but sanitary agents, whose duties are to placard premises where communicable diseases have been reported by a physician, to establish quarantine as prescribed by the regulations of the department, to notify the county medical inspector of any cases of communicable diseases in his district not under the care of a physician, and to disinfect, raise quarantine and remove placards at the conclusion of the quarantine period. There are many other duties of the health officer, but this outline will be sufficient for our purpose at present.

The new school code has in addition made each teacher in the state, in effect, a health officer, by making it his or her duty to report at once the prevalence of a case or cases of communicable disease in his or her school. This report is to be sent immediately to the proper health authorities if in a city, town or borough with a health board, or to local health officer where such board does not exist.

It is evident that the organization exists, wherewith to make a winning fight against the communicable diseases. That such a fight is frequently not made is due to the failure of the human elements in the problem. Either the physicians do not promptly report all early cases of communicable disease, or the teachers fail in their duty to report suspicious cases coming under their observation, or the health officers are remiss in their duty, or the county medical inspector "falls down" on his job.

It is possible that any or all of these conditions exist. However, after a number of years as county medical inspector, I am very glad to be able to state that the great majority of physicians live up to their full duty in the reporting of such cases. There are exceptions unfortunately, but, fortunately, they are few.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

A much greater weakness in the chain, is the lack of cooperation, especially in the county districts on the part of the teachers. Many teachers are undoubtedly afraid to make reports until the conditions in school get serious, because in the past, parents and directors have had little sympathy with quarantine regulations in the so-called minor contagious diseases. We feel certain that with the return of our boys from the army this attitude of opposition will be in large part abandoned, and that we will get a decidedly larger amount of help from the teachers.

As to the health officers, much of the success of any campaign depends on their faithfulness, activity, diplomacy. A good health officer is an asset to any community. This fact will be better understood in the future than it has been in the past.

And now for the county medical inspector. The manual of the Department of Health states that he is a local consultant, to be called on to diagnose doubtful cases, to investigate epidemics, to visit in person or by deputy cases of eruptive diseases or suspicious throat conditions where there is no physician in attendance and to order the enforcement of the health laws of the commonwealth and the regulations of the Department of Health.

You are all familiar with the duties of the inspector, therefore, for the purpose of this paper we will consider only a few in detail. First, we will consider the so-called serious diseases, smallpox, diphtheria, scarlet fever, infantile paralysis, epidemic meningitis. (I use the word "so-called" purposely because statistics show us that the minor diseases cause almost as many deaths as the serious ones, e. g., in 1914 there were deaths from diphtheria to the number of 1,925; scarlet fever, 860; measles, 549; whooping cough, 939. The figures speak for themselves.)

On notice of the presence of smallpox, diphtheria, etc., on a milk or butter farm, it is the duty of the county medical inspector immediately to establish quarantine. If the patient is a school child and has attended school since onset of disease the school is closed and the room disinfected before readmission of scholars. The sale of milk or milk products from the farm is continued only under certain restrictions and conditions, some of which are that those engaged in the milking and cleansing or care of utensils used for this purpose must be disinfected, together with their clothing, and required to keep out of the infected house until quarantine is removed. If this is not possible, arrangements must be made for a neighbor to perform all of these duties or the stock may be transferred to other premises free from infections, or contagious diseases. It is the further duty of the county medical inspector to endeavor to trace the source of the disease and report in full to the State Department of Health. Thus, when a patient has recently visited in another part of the state, the department is able to give important and timely notice to the proper local authorities of such fact.

The search for the causative factors of these diseases, especially in typhoid fever, is so interesting and important as to tempt us to further detail, but the purpose of this paper, which is to deal with the possible control of the minor diseases, makes it necessary to dismiss them even without mention.

And so we return to measles and whooping cough which cause the deaths of about 1,500 children each year. Much of this needless sacrifice is due, as we know, to the desire to evade quarantine on the part of the parent, and the refusal, therefore, to call in a physician until the child is seriously ill. On the face of it, one would say that here the physicians are not responsible. May I be permitted to say that the profession, by reason of not being sufficiently candid and open in the discussion of the question of the value of quarantine in all contagious diseases, does bear a share in the responsibility. I earnestly urge you, gentlemen, to be insistent, in season and out of season, in your conversation with patients as to the rightfulness, the need, and the efficacy of quarantine. Of course, quarantine will not be effective in measles and whooping cough if a large number of cases remain unquarantined, or if those under quarantine do not obey the regulations. This latter situation comes, in large measure, from the fact that many people do not believe in the efficacy of quarantine. At this point the physician can be of real help. I have found some physicians who believed quarantine, for instances for measles, could not be made effective. This is unfortunate.

It is hardly necessary for me to say that there are several factors which make measles a hard disease to control, but our experience in Derry Township in 1916, which is similar to the recent army experience, seems to me to prove that, with the active cooperation of parents, teachers and local authorities, much can be done with even that disease in the matter of control. These are the facts. Practically all the schools in Derry Township are located in one splendid big building in Hershey. Children from the whole township attend in this building, reaching school by trolley, automobile, wagon, etc. On or before April 27, twenty-six cases had been reported in the township. By order of the county medical inspector, concurred in fully and enthusiastically by the officials of the Hershey Chocolate Company and the school principal, the schools, the Sunday schools, the public library and the moving picture place were closed. In all public places signs were posted reading, "Until further notice children under fifteen not admitted." All the families in which there were cases of measles were visited and our efforts to prevent further spread of the disease were explained to them. They were made to understand that failure to control the spread of the disease would rest with them. Of further details we cannot make mention because of lack of time. This was the result: Before April 7, there were in Derry Township 26 cases, between April 7 and 22 there were 39 cases, which of course, had been "incubating"; after April 22 there were 32 cases, a total of 97 cases. In the town of Hershey proper (and only here had we full control) these were the figures: Before April 7 there were 9 cases, between April 7 and 22 there were 13 cases, after April 22 there were 7 cases. These 7 cases were divided as follows: Three were "secondaries" in the same families, 2 were nextdoor neighbors, 2 were unaccounted for. These figures seem to me to justify the statements that failure to control communicable diseases lie not in the weakness of quarantine itself, but is due to "broken quarantine." You will pardon so long a description of our experience. I could not make it shorter and say what ought to be said in order to make the situation clear.

And now for a remedy. Parents must be educated in the matter. Physicians can help in this important work. Teachers must be instructed and in some cases sterner measures may have to be used, so that they will enforce the provisions of the new school code pertaining to communicable diseases.

It has been suggested, and it seems to me with reason, that instruction should be given in normal and other schools preparing teachers for that work, along the line of the teachers' duty in the prevention of preventable diseases.

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DISCUSSION

Dr. Wlmer Krusen, Philadelphia: The county inspector and the school inspector must be unpopular because they have to enforce the laws and regulations pertaining to health. They are sometimes, as it were, ground between the upper and lower millstones, or are between the devil and the deep blue sea in their efforts to please the family physician, the patient, or the patient's family. The laws in regard to sanitation and quarantine represent the crystallized sentiment of the best men in the profession and I believe that county medical inspectors and health officers have a right to expect honest and sincere cooperation in their efforts to stamp out preventable diseases. Dr. Phillips has had practical experience along this line. No quarantine will ever be popular because it interferes to a certain degree with the so-called rights of the individual and, until we can develop a lay conscience which makes the family realize that the rights of the individual cease where the rights of society begin, until we further develop the conscience of the practitioner who sees these cases in their incipiency, we shall not eradicate communicable diseases. Another point which Dr. Phillips made in regard to the value of quarantine is illustrated in the fact that the chief resident physician of the Philadelphia Hospital for Contagious Diseases has two children. These have been born and raised in the hospital and never contracted any contagious disease until they went to the public school. It is safer to live in a hospital for contagious diseases than to go into the average public school. The matter is one of education rather than of legislation. Legislation cannot be enforced unless it has popular sentiment. We are being educated in these matters by our army and navy regulations in establishing more rigid quarantine.

Dr. Phillips, closing: I said nothing in my paper about one of our methods of controlling communicable diseases in our work. Whenever we know that a child has been at school while suffering from a communicable disease the school is closed and the room disinfected. That is a very important thing and if it is overlooked one of the links of the chain is broken.

SCIENTIFIC MEDICINE

WHAT IT IS AND WHAT IT IS NOT *

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While this paper is prepared for an audience of medical doctors, the writer has in mind a larger audience whose attention he would direct to a question which concerns the general public, and concerns the general public in a very vital manner. What sort of training should society require of those to whom it grants the right to practice medicine? At the outset I must be allowed to remark that an adequate discussion of this rather ambitious theme calls for the rich

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* Read before the Washington County Medical Society, Dec. 10, 1918.

and full equipment which is secured only by one who has spent many years in gaining knowledge at first hand in the practice of the science and art of healing the sick.

And yet there is some fitness, too, in the discussion of this theme by a layman, provided that layman can justify himself for undertaking such discussion. My justification for such course, I hope, may be granted when it is understood that for a long series of years, in addition to the fundamental biologic subjects of general biology, zoology and botany, I have endeavored to conduct courses in mammalian anatomy, histology and embryology, with the idea of training young men for the study of medicine uppermost in mind.

The material with which I worked was of the best, so fine, in fact, was it, that I look back on those years with feelings of profound gratitude that I have had the rare privilege of companionship with so select a lot of my fellows, but with, at the same time, a somewhat apprehensive look into the future when I contemplate facing the just judgment that somehow or other, and some time or other, every sane consciousness is convinced will be passed on his work.

Nor can I leave this phase of the subject without paying a merited tribute to the work of my scientific colaborers in the training of the young men of Washington and Jefferson College who had the study of medicine in view. The subjects of chemistry and physics offer much better opportunities for training in exactness of manipulation and accuracy in the mental processes involved in arriving at correct conclusions than are afforded by the subjects grouped, for convenience, under the head of biology. For the past ten or more years I have been meeting young men who have been trained in the laboratories presided over by Dr. H. E. Wells, professor of chemistry, and Dr. George Winchester, professor of physics, each a master workman in his profession as a teacher. The foundations laid by the premedical students in the chemical and physical laboratories were good to build on. Without them, the less well standardized biological courses lacked the essential element of mathematical exactness; with them, the student, already trained to give strict attention to details, lost no time in acquiring the necessary scientific habit of mind, and made undelayed progress from the start.

It is just as permissible to speak of the science of medicine as it is to speak of the science of geology. Indeed, a brief comparison between these two departments of knowledge will help to a proper understanding of the question which this paper attempts to discuss. The science of geology has to do primarily with the history of the earth and of the organic forms with which it is peopled. The record of this history is written in the rocks, and in the structure of animals and plants. This history is interpreted by causes which are still in action. Consequently it comes about that the geologist must avail himself of knowledge which chemists, physicists and biologists have wrung from nature and set in orderly array. Thus the geologist learns to see clearly and to reason correctly from the observation of real things. He no longer looks on impressions of shells in rocks, now far from the sea and at the tops of mountains, as playful freaks of the Creator, or tricks played by some dishonest advocate of the truthfulness of the story of the Noahachian deluge.

In like manner the scientific physician in the practice of the healing art makes use of knowledge which has been acquired in the laboratories of the chemist, the physicist, the anatomist and the physiologist. On these sciences the science of medicine rests, and in the laboratories of experimental physiology, more particularly, problems are continually being attacked, the solutions of which, from time to time, enrich the fund of acquired human knowledge, and also make frequent contributions to the science and practice of medicine.

Thus scientific medicine is ever on the alert to seize on and to appropriate new discoveries. It does not seem very long ago to the youngest of us here today when the discovery of radiant energy was first announced. The nonscientific world saw in the roentgen ray a new wonder, in the fluoroscope an amusing toy, and in radium a marvel. The scientific medical man saw in the roentgen ray a new and valuable aid to diagnosis, and in radium a possible addition to his armament in the battle against disease. Immediately experimentation began in the physiological laboratories with the roentgen rays, and contributions shortly made their appearance in the scientific journals, such, for example, as those now collected in Cannon's "Mechanical Factors of Digestion."

It is not so long ago, either, that about all that the students of a most excellent medical school ever heard about the ductless glands was the occasional turning up of a catch question on examination, such as, "Where does the duct from the spleen empty?" Tradition says that this question ceased to appear after a bright but disgusted student recorded this answer, "At the bifurcation of the rectum."

A few years after this story was told me by a former student, now an eminent surgeon, the ductless glands came to the fore. Experimental work on them resulted in most important contributions which have proved of great medical value. But, it should be observed, no school of medical practice was built on this knowledge. Some of the, at present, much boosted "pathies" rest on less important physiologic foundations. It might be in order, therefore, to suggest that, when such vagaries as chiropathy and osteopathy have had their brief, fitful day, there is yet balm of healing for those who wish a medicineman instead of a physician, in adrenopathy, or parathyroidopathy, or, perchance, hypophysopathy.

One of the best illustrations of the development and methods of scientific medicine is to be found in the contributions to knowledge made by that admirable man of science, Louis Pasteur. Just now we are saluting the French nation, and its great political and military leaders which have risen in this world crisis. We honor them for their great achievements, and admire them because they impress us as being friends of all men of good will. So, in Pasteur we recognize, not only the great Frenchman, but the great man. Louis Pasteur was not himself a medical man, but a chemist. His first contributions to science were in the realm of crystallography. These contributions were so notable that one recognizes in them the products of a mind that saw deeper into the constitution of matter than any one had seen before. When, therefore, he was asked to take up a special problem in microbiology there was brought to the task the highly trained intellect of a veritable scientific seer. The results of his labors on a disease, which was seriously injuring the silkworm, were so startling as to mark the beginning of an epoch. The discovery of micro-organisms was already due, and doubtless would have been made by some one in the same decade in which the keen observation of Pasteur revealed them; but the world might have waited many decades before the theory of antitoxins could have been conceived and established, had it not been for the transcendent genius of Pasteur. Huxley, some forty years ago, said that the work of Pasteur had saved to two industries alone, in France, more than the indemnity which had been exacted from France by Prussia. The values in human lives saved in the years which have followed and, especially in the past four years, due to knowledge of antiseptic treatment of wounds, of vaccination against enteric fevers, of sanitation in camp, hospital and home, all flowing from Pasteur's contributions to knowledge, immeasurably transcend the cost of the world war, staggering and unprecedented as that will be.

Pasteur's discoveries were so far in advance of his time that the scientific world, at least that part of the scientific world represented by the medical fraternity, did not at once estimate it at anything like its true value. The fact that he was a chemist, and not a doctor of medicine, delayed recognition by the medical men of his own country, then a more conservative body than they now are. It was the Scotch Quaker, Joseph Lister, who first saw the medical value of Pasteur's discoveries, and antiseptic and aseptic surgery thus became the first fruits of the Pasteurean epoch in the history of medical science.

In all discussions of scientific matters it must be remembered that what we now speak of as the scientific method is of rather recent development. The scientific method in medicine, as in other departments of knowledge, has won its way but slowly to its present admirable eminence. This can be said without discrediting the labors of the great men of the past, who kept the torch of knowledge alight, here and there, in the dusk of a credulous and unscientific world. Science does not, as some ignorantly think, disbelieve all things. It does, however, endeavor to prove all things. Medical science in its own province cannot be said to be either credulous or incredulous; it simply must be convinced. Hence, there has grown up a great proving ground, which we may call animal experimentation. This is a great subject, and it would require many lectures to do it the justice which its importance demands. It is true that much can be learned, as much has been learned, by observation and experience in medical practice. Such knowledge, valuable as it is, and not by any means to be discounted, is too slow and costly. Knowledge is needed, for example, of the function of the parathyroid glands, knowledge, let us say, that is clearly attainable and, once attained, will result in the saving of many lives, both of man and beast. The knowledge may call for the sacrifice of a considerable number of guinea-pigs, a lesser number of rabbits, a few cats, possibly a dog or two and, it may be, a monkey. At once this suggestion arouses antagonism in a curious type of mind, which finds outlet for certain abnormal activities in forming antivivisection societies, and is ready to spend much time and money in influencing legislatures to enact laws which are calculated to hinder progress in that most beneficent of human activities, the science and art of healing. Such inhuman societies have done more mischief in England than they have yet been able to effect in this country. This subject, while tempting and important, cannot be discussed further in this paper, and may be dismissed with the remark that no antivivisectionist should be given a hearing unless he is a consistent vegetarian. The experimental work which is carried on in institutions, such as the Rockefeller Institute for Medical Research in New York City, is of inestimable value to medical science and to the world. Here highly trained and competent men are engaged in experimental work which, together with similar investigations that are being carried on in the laboratories of all the better medical schools and universities of the country, is enriching medical science. Thus, year by year, experimental medicine is putting into the hands of the physician new and improved means of conquering disease, and of removing pain and suffering from the world.

Medical science, like any other department of research, arranges in order, and estimates at their true value, all facts which have any relation to its one great problem, the healing of the sick. It is, therefore, all-embracing, and marches with the progress of human knowledge. This truth lies plain and clear to the eyes of all who have attained that habit of mind, often called scientific, but called so only by a figure of speech, where a part gives a name to the whole. That habit of mind has been acquired by any one, who, as a matter of course, reasons correctly, who is just as careful in accepting his major premise as he is in the processes by which he reaches his conclusion.

Many years ago I had the rare privilege of being entertained at the home of the late Dr. Peter Parker, who had spent many years in surgical work in China. He gave many examples of Chinese reasoning in medical practice, which would illustrate some of the things which scientific medicine is not. Here is one of them: The tiger is one of the strongest of living things. The skeleton is the strongest part of the tiger's body. Therefore the virtue of strength will be imparted by medicine prepared from the bones of the tiger. Calcined tiger's bones, therefore, occupied a prominent place in the pharmacopeia of China, in the first half of the nineteenth century.

One may be tempted to smile at this reasoning of the Chinese of more than two generations ago. If, however, he happen to have one of our newspapers before him, his smile will disappear, as his eye catches the too frequent testimonials to the virtues of some mixture of onomatopoetic designation, warranted to cure anything that the amateur diagnostician decides is the matter with himself.

But I am more concerned at this point in my discussion in trying to show what scientific medicine is, rather than what it is not.

It is a much worn saying that the animal body is a very intricate machine. So intricate is it, in fact, and its workings so difficult of explanation, that we may well doubt whether, within the span of life of the human race, all will be explained which is within the comprehension of the human understanding. For example, chemical formulae, more or less satisfying, may be written for the various foodstuffs, likewise much is known of the changes which are involved in the processes of digestion. Furthermore, a knowledge of the end products of vital processes is well in hand. But between the digested food and the carbon dioxid, water, and nitrogenous and other waste products which leave the body, there takes place a series of events, every one of which is doubtless explainable in terms of chemistry or physics, but which may never be understood in their entirety. No physiologic chemist ceases his researches into the unknown because of the thought that there can be no hope of reaching ultimate truth. Rather he is spurred on to push back the boundaries of knowledge as far as he can, even to some comprehendable expression for the difference between living and not living tissue.

So it comes about that there are in a large number of laboratories, the world over, many workers in various departments of physics, in the many fields of chemical research, in biochemistry, in physiology, in experimental medicine. From these laboratories are coming a multitude of papers which give the results of all this activity in the interpretation of the visible universe, of which we are a part.

Scientific medicine gives sympathetic heed to every department of research that can in any way throw light on the workings of the human body, in health and in sickness. Now and then a great discovery is made which puts new weapons in the hands of the physician in his fight against disease, or leads to radical changes in the treatment of entire classes of ailments.

It is hard for us to understand how a rational system of medical practice could exist before Harvey demonstrated the truth concerning the circulation of the blood, or how blindly the best of medical minds groped before Priestley discovered oxygen. Neither does one have to be among the oldest inhabitants to recall how helpless preventive medicine was when epidemics of yellow fever, or bubonic plague, or even enteric fevers, were to be averted.

Briefly, then, we must understand by scientific medicine, so much of that body of well-established and orderly-arranged truth, which makes up the sum of human knowledge, as is found to be serviceable in curing the ills, or repairing the damages of living organisms, whether they be men or beasts, or lowlier creatures than either.

It follows, then, that society, for its own protection, must deny the right to practice medicine to those who have not had training in a legitimate medical school; to require the medical school to decline to admit to its courses any one who has not had such preparation as that represented by the standard of preliminary education, advocated by the American Medical Association, which includes laboratory training in biology, chemistry and physics.

Further, just as any one can see the absurdity of different sorts of systems of chemistry, or physics, or engineering, so the public, if it does not already understand, must be educated to a proper understanding of the fact that there can be no such thing as different schools of medicine. There are, of course, a great variety of methods of handling certain specific cases, but it must all be done by the practitioner in each instance using his best judgment as to the treatment which is demanded. Neither does scientific medicine discourage specialists. There is the same difference, however, between the specialist who treats only the eye, ear, and throat, and the man who would advertise to cure any and all diseases by treating the eyes, ears, and throats of his patients, as exists between the legitimate general practitioner and the man who would build a general practice on the manipulation of the vertebrae of his patients, no matter how beneficent the latter treatment might conceivably be in certain specific cases.

What is of immediate concern is that the public be taught to understand that medical science is no different from other science in its essential nature. The public understands very well that the analysis of an ore must be referred to one who has learned his business in a chemical laboratory. It should understand, equally well, that the diagnosis of a disease should be intrusted only to the man who has had hospital training following graduation from a legitimate medical school.

Society may decide that it is better to have competent diagnosticians under salary, paid from the public treasury, than the present unorganized system. I am inclined to think that something of that sort must come. Thus, with the dread of consultation fees removed, self-diagnosis, under the tutelage of patent medicine circulars, would be largely done away with.

In that happy time one would no longer have his eye assaulted by type which shouts at him the praises of New Vigor and Nerve Pep.

I do not think that such a plan would interfere in the least with the work of the legitimate specialist, or with that of the family physician, an institution which, like the family itself, must not be permitted to languish.

EASTWARD HO!*

W. B. KONKLE, M.D.
MONTOURSVILLE

Mornward were turned humanity's rapturous eyes. Civilization's triumphant march was hastening toward the dawnglow kindling gloriously. Along a devious, desolate path, left strewn with the bleaching bones of monstrous errors and the corroded shackles of atrocious wrongs, mankind had attained a point of vantage from which seemed within sure reach the accomplishment of self-determination and self-realization. The field of contest seemed to have shifted from the arena of force to the forum of thought. Dominion's scepter seemed to have passed from the clutch of might to the grasp of justice. But when we deemed that all was won, lo! suddenly we feared that all should be lost!

The freedom of man had been largely achieved. The ancient tyrannies were mostly dead. Conquered and bound was the power that from above through weary, dreary ages had enslaved the masses, imposed on them its tenets and its fiats, impressed them into service of its own perpetuation and aggrandizement. No stand by the old despotism anywhere could be ever again formidable. If thereof a citadel remained it might be, perchance, Peking or Stambul or Petrograd. The matter, though, was one of curiosity rather than of concern. So to our near undoing thought we.

But grim and grisly despotism, nothing if not crafty, had shrewdly chosen another strong-hold from which to launch its latest, direst blow at victory-vindicated liberty. The dragon of old became the beast of Berlin of the latter day, and Prussian despotism began to train and equip and reinforce itself for the execution of its fell purpose, the subjugation of the world. It laid its foundations broad and deep in militarism. It appropriated everything, exploited everything, subverted everything. Even its deities were purloined. Discarding its own gross gods, it stole from the Scandinavian Sagas the majestic Odin and the heroic Thor. The while it befogged and befooled the rest of mankind with poppy vapors and siren songs, into the veins of an intrepid and earnest people, made tributary, it continuously poured a subtle venom until that people was wrought up to an appalling pitch of delirum, frenzy, brutality. Machiavelli was out-Machiavellied. An arch-diabolus was arisen to whom all other demons might go to school.

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* Read before the Lycoming County Medical Society, Nov. 8, 1918.

Then with a roar of lust and fury from its lair forth sprang the beast—Attila *redivivus* self-acclaimed — he reincarnate who boasted that no grass ever grew again where his horse had trod—the "scourge of God" come back to earth in a rôle more vast and more terrible, in a character mightier and more malignant. But from the onset Prussianism was the victim of an enormous misreckoning of its own. It fully counted on conquering by fear yet more than by arms. Freedom's breed does not scare easily, however. So from the very start *"schrecklichkeit"* failed. Grandly the champions of a free world roused themselves, and braced themselves against the shock of the onsurging hordes of infernal hate. They saw the Prussian beast unmasked. They perceived that the fateful hour had struck—that *"der Tag"* was here. Promptly they took up the gauntlet flung at their feet. And a war to the death was on between two universal principles. Raged a decisive combat between the past and the future. Bulwer-Lytton makes his Richelieu say to Baradas:

"Look to it well!

Lose not a trick! By this same hour tomorrow
Thou shalt have France, or I thy head!"

So, with confidence steadfast and defiant, in the teeth of rampant despotism liberty hurled the challenge: After this war you will have the world again, or I shall have your head!

Fast passing is the evil hour.

"Not forever
Can the glorious sun be hidden;
Not forever, not forever."

Aye, even now the sunshine is pouring down again through the cleaving cloud mass. The Huns are at bay, and clamoring for mercy. They fain would have crushed the world by methods of damnedest hell, and now they whine and simper for a settlement in harmony with the spirit of Jesus of Nazareth! Retribution has its irony, too.

"Jove strikes the Titans down,
Not when they first begin their mounting piling,
But when one more peak
Would bring them to the top."

On the prostrate Encelladus of Prussianism let Aetna be heaped, that he no more may lift himself aloft to curse the earth.

What of the future? The present hour is not too soon for humanity to take bearings, to lay down courses, to fix and define goals. It can be certainly foretold that, after such stress and strain of shocking, rocking, quaking civilization will not settle down on exactly its prewar bases nor preserve the strict integrity of its prewar lines. That will be one of the blessings to be reaped with the staggering harvest of loss and woe. So let it be.

"All before us lies the way;
Give the past unto the wind;
All before us is the day,
Night and darkness are behind."

Let us hope that more potently and more enduringly than the clangor of armed hosts will yet the still, small voice of truth mould the music of the ages. Let human progress take a fresh departure toward the dawn. Let evermore the watchword be, Eastward ho!

In the dread cataclysmic world-drama about to close, medicine has played a vital and noble part. From out the shadows of olden time Homer sings, "The physician out-weighs many other men." Through four years that were eternities, amid horrors and miseries and agonies unutterable, in each awful hour this claim has been verified anew and a thousandfold. The Russo-Japanese campaigns were brilliant victories for medicine. The Panama Canal is a triumph peculiarly its own. But at once greater than ever and more divinely tender, within the fires of the inferno that engulfs the globe walks the healing art, white-robed, crownless, a redeeming and guardian angel. The thesis presents no need of narration nor citation. Brightly shining in the darkness are the living deeds. And when hereafter history shall tell her tale of these times the words she speaks of medicine will be words of gold.

Let our profession cast a glance ahead. Problems of deepest significance and most weighty importance at an early date will confront medicine both as a science and an art. The first after-war task, a huge one forsooth, will be to restore and train and sustain the war-made wrecks of men. Reparative surgery will have an immense field to occupy and cover. Every effort should be made to commensurately expand. Endeavor toward such growth may find further incentive from the reflection that all gains will have an ulterior value as applied to unavoidable accidents in normal work-a-day life.

Another peace duty devolving on medicine will be to make healthful and safe the then marvelously extending and intensifying world intercourse. After this war to a measure never before more than dreamed will the tribes of man be bound together in faith and concord.

> "For a' that and a' that,
>   It's coming yet, for a' that,
> That man to man, the warld o'er,
>   Shall brothers be for a' that"

Medical science should see to it that the blending and attuning into a universal symphony of the heart-throbs of the races shall conceal no menace and bear no harmful fruit. A pertinent index of plan and work might be the legend that Hygeia is Aesculapius' first-born daughter; and that Panacea, as the younger, takes relatively second rank.

In the opening era of the new heavens and the new earth yet another office of medicine will be to control and regulate the dimensions and proportions of populations. Time lacks for the specific discussion of the question. Insistence on its relevancy and opportuneness will be permitted, however. For, after all, do not some of the main roots of the monstrous peril that has threatened the world end in conditions associated with this problem? Within inflexible, inexpansible confines, as within a wine-press, peoples are jammed until blood bursts forth, and that is war. Investigation and experimentation should be bent on this hard riddle until it yields its answer.

Yes, yes; as an agent in the unfolding of the sublime destiny of the race our noble art will find a progressive mission. On her brow untarnished majesty, within her hand the lamp that never fails, let medicine be to humanity a monitor forever. Still let her lead the nations toward the breaking day. Eastward ho!

SELECTIONS

WEST VIRGINIA AND PROHIBITION

Through the courtesy of Hon. Harvey W. Harmer of Clarksburg, W. Va., a former member of the West Virginia state senate, and a member of the present senate, having been elected on a straightout platform for the ratification of the prohibition national amendment by a majority of more than 2,700, leading every one on the ticket, we have before us a copy of the advance sheets of the fourth annual audit of that state filed by Hon. Walter S. Hallanan, state tax commissioner, with the Governor.

This report shows a most gratifying condition of West Virginia's finances and constitutes complete refutation of the contention that liquor license fees are essential to successful governmental financing.

After four years of prohibition, West Virginia closed the last fiscal year with an actual balance to the credit of the general fund in its treasury of nearly $1,000,000—to be exact, $991,838.80.

The commissioner in his letter of transmittal advises the Governor:

"It is estimated that the general fund will finish the present year, July 1, 1919, with an actual balance or surplus of approximately $1,000,000 after providing for all appropriations in effect. West Virginia is, therefore, able to enter on the world's reconstruction period without being required to seek new or additional revenues for state purposes. West Virginia is further fortunate in that no part of her revenue is received from liquor licenses. Hence, when the nation goes dry in 1919, the finances of West Virginia will not be disturbed."

West Virginia swept her house four years ago and has it ready for the great enterprise of reconstruction.

The condition of her finances—a surplus in the general fund of substantially $1,000,000—is all the more significant when it is known that the state tax levy for the year beginning July 1, 1918, is but 7 cents, as compared with 11 cents for the preceding year, a reduction of 4 cents, or more than one third; and in the light of the further fact that during the last three years $1,471,557.14 were expended for buildings and lands and permanent improvements, and that during the same three-year period quite $2,500,000 were expended for the support of local schools. And it is especially significant when it is remembered that on July 1, 1915, after taking care of all appropriations, the state had a deficit of $1,500,000.

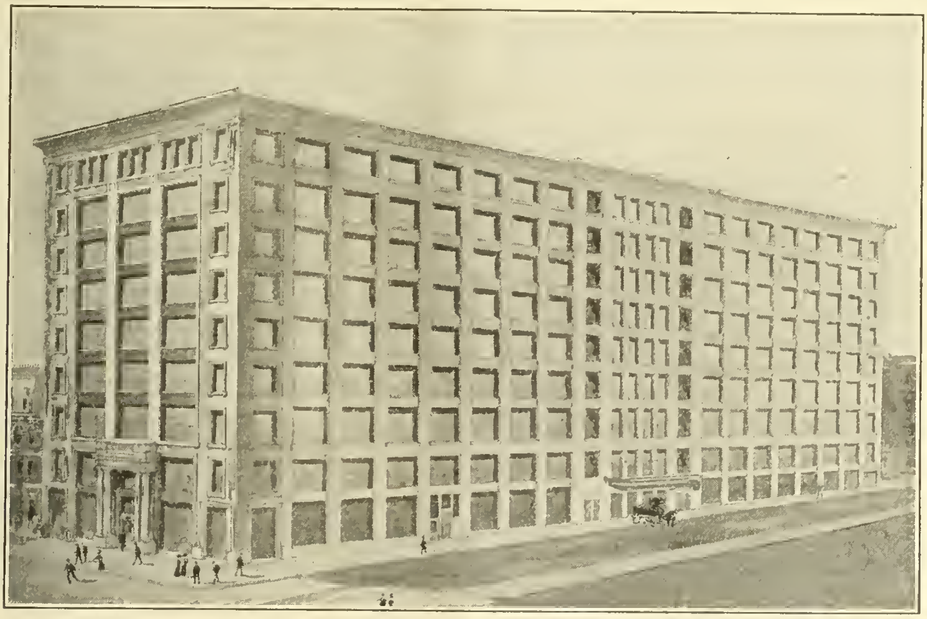
Four years of prohibition, with increased expenditures for lands and permanent improvements, generous provision for the support of local schools, a reduction of more than one third in the state tax levy, and a surplus in the state treasury of $1,000,000, with the assurance that increased expenditures incident to reconstruction after the great war can be provided for without raising the tax levy, furnish an object lesson that ought to reassure and give decision to every doubting state legislature in the land.

They cover with utter and complete confusion every contention made by pro-liquor advocates and journals as to the necessity for liquor revenues to meet governmental needs.

By an amendment to the state constitution, a state budget system was recently adopted and a state budget commission created. It is estimated that, if expenditures are kept at the present rate, the present revenues will exceed expenditures for the years 1919 and 1920 by quite $400,000, leaving the present surplus of $1,000,000 unimpaired.

We congratulate the state government of West Virginia and her people on the record they have made. They have performed a lasting service not only for themselves, but for the whole Union. What West Virginia has done, other states can do. We commend her achievement to the thoughtful consideration of other state authorities in connection with the adoption of the national amendment, and especially to those of the states of Connecticut and Pennsylvania, where the loss of rum revenues is still being used as a bogie-man to prevent the amendment's ratification.—Hanly.

New Home of the H. K. Mulford Company:—Having outgrown their present Pharmaceutical Laboratories, the H. K. Mulford Company have purchased and will soon occupy the modern building, located at Broad, Wallace and Fifteenth Streets, on Philadelphia's main thoroughfare, six blocks north from City Hall.



The building is of modern construction, being fireproof throughout, of steel, concrete and stone, nine stories in height and has a total floor space of nearly ten acres.

All equipment is of the latest type used in building construction and includes four electric passenger elevators, four electric freight elevators, with a capacity of twelve tons; four enclosed fire towers for the safety of the occupants; electric generating machine; mail chutes; artesian wells, etc.

The structure will be further equipped with modern labor-saving devices and when occupied will house the general offices and the drug, chemical and pharmaceutical departments which are now distributed over a number of buildings in several locations.

This will be the largest building in the world devoted exclusively to the production of medicinal products. It will be a worthy peer of the Mulford Biological Laboratories located at Glenolden.

The rapidly increasing business at home and abroad has necessitated this expansion and the new premises will enable the H. K. Mulford Company to fulfill the long cherished aim of making the Mulford Standard of Service equal the Mulford Standard of Quality.

SEEMS WILLING

American Housewife—"Is your husband much of a provider, Malindy?"

Colored Servant—"He jes' ain' nothin' else, ma'am. He gwine to git some new furniture providin' he gits de money; he gwine to git the money providin' he go to work; he go to work providin' de job suits him. I never see such a providin' man in all mah days."—*London Tit-Bits.*

One of the engines of George Stephenson has been in constant use since 1822 at Hetton colliery in England. According to *Publicity Magazine*, the owners of the engine refuse to sell it until it has passed its century mark.

The recently completed Altai Railway, which cuts through Siberia to the very heart of her rich mineral districts, is five hundred miles long. Besides coal, the Altai district contains gold, silver, lead, zinc, and copper.

A Quick Diagnosis.—A youthful physician had been summoned as a witness in a case which depended on technical evidence, and opposing counsel in cross-examination asked several sarcastic questions about the knowledge and skill of so young a doctor.

"Are you," he asked, "entirely familiar with the symptoms of concussion of the brain?"

"Yes."

"Then I should like to ask your opinion of a hypothetical case. Were my learned friend, Mr. Banks, and myself to bang our heads together, should we get concussion of the brain?"

"Mr. Banks might."—Pittsburgh *Chronicle Telegraph.*

"Mamma, I want a dark breakfast."

"Dark breakfast! What do you mean, child?"

"Why, last night you told Mary to give me a light supper, and I didn't like it."—*Exchange.*

RESOLUTIONS

1. I will pay my 1919 dues *today*. It is a just obligation and one from which I receive much in return. My county society needs the money and I do not want to be dropped from its roll, nor do I want to be without THE JOURNAL or the Medical Defense protection afforded by my State Society.

2. I will add at least one new member to our society this month. Maybe my assistant, or my young associate, or my old medical neighbor is not a member and awaits an invitation. We need each other, and together, I am sure, we can accomplish much for the common good.

(Signed) EVERY MEMBER.

Jan. 1, 1919.

A SERMONETTE

"I send you the *per capita* assessment of $2.75 each for every member the Montgomery County Society has in the United States Service. We paid the assessment last year, and are very glad to pay it in advance for 1919. We thought as this was the most important of our expenses we would pay it first and, if necessary, deny ourselves something else later in the year."

Our text is taken from the above words of Secretary Buyers of the Montgomery County Medical Society to the Secretary of the State Society. How perfectly and fully they express the gratitude and sense of responsibility of us stay-at-homes to our military members and our State Society. The members of the Montgomery County Medical Society evidently realize that it is one thing to say to an absent member, "You shall not pay any dues while absent in our country's service"; and that it is another thing to add, "I will pay them for you."

Just where does your county society stand on this most timely subject? Your society's stand must reflect your personal views; if it does not, then you are derelict in just so far as you have failed to seek this opportunity to do your full duty.

The following component county societies have to date (December 23) paid to the State Society $2.75 each for members absent in military service for 1918: Clearfield, Clinton, Indiana, Jefferson, Montgomery, Chester and Monroe.

The following societies have paid such dues for 1919: Butler, Mifflin, Monroe and Montgomery.

The following societies have taken the necessary action to pay such dues for 1919: Bucks, Elk, Lawrence, Luzerne, Northampton, Northumberland, Philadelphia, Venango, Washington, Wyoming and Lancaster.

Last, but certainly not least, we are proud to record the Allegheny County Medical Society as having taken the necessary action to pay such dues for 1918 and 1919.

May we not look forward with pleasure to the privilege of recording in the February JOURNAL every component county medical society as having done its full duty to its absent military members and to the Medical Society of the State of Pennsylvania?

OPPORTUNITY

It is your privilege to contribute to the destiny of the medical profession in its relation to the body politic. Always must we combat the ignorance and greed of those who, thinking only of self, would sacrifice the health of the individuals comprising the commonwealth. With nauseating regularity and disheartening frequency we are forced to renew our fight against those who are anti-this and anti-that, those who would bar the way to scientific progress as well as those who would destroy our economic position.

No one knows what we may have to combat in this year's State Legislature. It may be antivaccination; it may be antivivisection; or it may be compulsory health insurance. Most of us have taken no interest in health legislation in the past, but here is a proposition that will in due time make us all "sit up and take notice." Will you receive your shock now or later? If you choose now, then you will at once see your assemblyman and tell him that you are for anything that will improve the public health by way of education, example or administration but that you are unalterably opposed to the further entrance of insurance companies between the sick and injured and those who treat them; that undoubtedly state medicine must step in and hygienically control the ignorant and careless who menace themselves and others, but that you are unqualifiedly opposed to the pauperizing effects of treating the sick by wholesale "lodge practice" methods.

Fellow Members: The Medical Society of the State of Pennsylvania cannot offer you security. It has behind it, however, the gathering force of years of self-sacrificing service to the people of the commonwealth, and ahead of it the determination of the health of those people, as well as your future economic status. Are you and your patients to retain your individualities, or are we all to be submerged in paternalistic schemes of organized profit? Watchfulness is the answer.

A CONTRAST

"There is about $1,500 remaining in the general fund after enclosed vouchers are paid."

The above words express very graphically the depleted condition of the treasury of the state society since about 2,000 of our members have entered the military service. The quotation is from Treasurer Wagoner's letter of recent date to the secretary, and the figures are in startling contrast to those of 1916.

Is it possible that these 2,000 members after fighting for us must now return and face a depleted treasury? No! You will find the answer elsewhere on this page. Is your name (county society) written there?

DR. JOHN SMITH VS. JOHN SMITH, M.D.

Dr. John Smith may, by the casual observer, be mistakenly credited with a degree in divinity, philosophy or dentistry. Again, Dr. John Smith may be classified by the casual observer as an osteopath, chiropractor or chiropodist. John Smith, M.D., however, is instantly and properly recognized as bearing the degree of Doctor of Medicine.

This may seem at first glance a small subject for discussion, but in larger communities, especially, it is worthy of consideration, and the members of this society are respectfully urged to unite in adopting for universal use the specific degree letters, *M.D.*, rather than the obscure and much overworked prefix, *Dr.* or *Doctor.* In Pennsylvania the degree, *M.D.*, represents several years of college and hospital work; on the other hand, the prefix, *Dr.*, adorns the stationery or sign of many an individual who took but a few weeks' course in some school of drugless therapy.

REPETITION AND REITERATION

Don't complain if from time to time you see on this page or in the publication of your county society the "same old stuff" about prompt payment of dues, bringing in new members, duties to county and state societies, etc. They really are not intended for your eyes, for of course you are prompt and devoted in all your obligations as mentioned above. And as always the willing horse must do more and more work, so we secretaries hope that you will forgive the monotony of these repetitions and accept a new task, namely, that of conveying by word of mouth these messages to the ears of our members whose eyes rarely, if ever, behold the handiwork of our pens. We know that 20 per cent. of our members never open these publications, and that a much larger percentage, having opened and read, promptly forget. So you, having perused these references to the bitter end, are again importuned to increase the interest in all topics vital to organized medicine and to realize our justification in "harping away" on such dull lines.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported up to December 21:

Adams County: *New Member*—V. G. Brickell, 6234 DeLancey St., Philadelphia.

Allegheny County: *New Members*—Louis N. Smith, Noble Ave., Swissvale; Scott L. Kock, 566 East End Ave., Philip E. Marks, 580 East End Ave., Pittsburgh; Samuel G. McGarvey, Bridgeville. *Removals*—William T. Hall from Fort Myers, Fla., to Children's Hospital, Randalls Island, New York, N. Y.; John B. McCann from Pittsburgh to Tonopah, Nev.; John Read from 530 Fifth Ave., McKeesport, to 641 Walnut St.. McKeesport.

Bedford County: *Death*—James Malcolm McKibbon (University of Pennsylvania, '99) of Buck Valley, died from wounds received while on duty on the firing line in France, October 23, aged 46.

Bucks County: *New Members*—Irvin M. Bush, Bristol; Franklin Watson, Willow Grove. *Removal*—James W. Harper from Tullytown to 380 Keever Ave., Crafton (Allegheny County).

Center County: *New Member*—James C. Rogers, Bellefonte.

Clearfield County: *Death*—Fred C. Howe, Clearfield; Stanley Miller Martsolf (University of Pittsburgh, '02) of Westover, in Clearfield, October 28, aged 41.

Clinton County: *Death*—William P. Gillespie (Jefferson Med. Coll., '04), Mount Airy, Philadelphia, recently, aged 37.

Crawford County: *Removal*—Winters D. Hamaker from 667 Caroudolet St., Los Angeles, Calif., to Rex Arms Apts., Los Angeles, Calif.

Dauphin County: *Death*—Charles M. Sullivan (Maryland Med. Coll., '10) of Harrisburg, recently from a complication of diseases, aged 37.

Elk County: *New Member*—M. F. Leary, Ridgway.

Erie County: *Deaths*—Capt. Joseph Dudenhofer, M. C., U. S. Army (Jefferson Med. Coll., '11), was killed in action in France, September 17, aged 30; Margaret Allen Judge (Woman's Med. Coll., '10), in Erie, November 22, aged 39, from influenza.

Franklin County: *New Member*—John H. Mayer, Chambersburg.

Huntingdon County: *Removal*—Harry B. McGarrah from Robertsdale to Timblin (Jefferson County).

Indiana County: *Death*—Thomas D. Stephens (University of Pittsburgh), in Indiana, December 13, aged 50, from general breakdown due to overwork.

Lackawanna County: *Removal*—Harvey O. Rohrbach from Bethlehem to 633 Moosic St., Scranton.

Lancaster County: *Deaths*—Arthur J. Thome (Baltimore Univ., '05) in Milton Grove, October 13, aged 35; William B. Thome (University of Pennsylvania, '76) in Elizabethtown, December 11, aged 64, from influenza.

Lawrence County: *New Member*—Victor C. Wagner, New Castle. *Removal*—William J. Davidson from New Castle to 31 North Howard Ave., Bellevue (Allegheny County).

Lehigh County: *Death*—William B. Erdman (University of Pennsylvania, '60) in Macungie, December 2, aged 80, from influenza.

Lycoming County: *Death*—Roy H. Renn (Jefferson Med. Coll., '06) of Williamsport, was found dead at Nisbet, November 28, aged 40, death having been due to heart disease.

Luzerne County: *Death*—Charles L. Griswold (University of Pennsylvania, '07) in Nanticoke, October 7, aged 35, from pneumonia following influenza.

Northampton County: *New Member*—David F. Bachman, South Bethlehem.

Northumberland County: *Death*—Enos A. Gerberich (University of Pennsylvania, '76) of Shamokin, recently, aged 65.

Philadelphia County: *Deaths*—William F. Craig (Medico-Chirurgical Coll., '97); (University of Pennsylvania, '02) in Philadelphia, recently, aged 44; Joseph V. Kelly (Jefferson Med. Coll., '68) of Philadelphia, December 6, aged 74.

Tioga County: *Removal*—Arland L. Darling from Lawrenceville to 17 East Pulteney St., Corning, N. Y.

Washington County: *New Members*—Robert A. Spahr, West Brownsville; G. L. Howden, West Elizabeth (Allegheny County); William W. Sprowls, Houston; William W. Weygandt, Thomas.

Wayne County: *Death*—George G. Gill (Jefferson Med. Coll., '10) in Waymart, recently, aged 35. *Removal*—Edward B. Gavitte from Wilmerding (Allegheny County) to P. O. Box 71, New Bethlehem (Clarion County).

Westmoreland County: *New Member*—Abraham Owaroff, Jeannette.

Wyoming County: *Removal*—T. Grey Merritt from North Mehoopany to West Pittston (Luzerne County).

York County: *Removal*—Herman H. Farkas from Pittsburgh to Heilwood (Indiana County).

PAYMENT OF PER CAPITA ASSESSMENT

The *per capita* assessment for the year 1918 has been received from component county societies since November 20, as acknowledged on page 165 of the December Journal, as given below. The figures in the first column indicate the county society number and those in the second column the state society number.

1918

11/23	Adams	23	6855	$ 2.75
11/29	Clinton	24–25	5592–5593	
	Previously remitted now paid.			
12/ 4	Allegheny	1105	6856	2.75
12/10	Center	27	6857	2.75
12/11	Westmoreland	153	6858	2.75
12/19	Washington	113–116	6859–6862	11.00
12/21	Lawrence	58	6863	2.75
12/23	Fayette	126	6864	2.75

The *per capita* assessment for the year 1919 has been received from component county societies as follows:

1918

11/25	Elk	1–5	1–5	13.75
12/ 4	Bucks	1–32	6–37	88.00
12/ 5	Butler	1–6	38–43	16.50
12/ 5	Northampton	1	44	2.75
12/ 7	Mifflin	1–5	45–49	13.75
12/ 7	Franklin	1–2	50–51	5.50
12/10	Montgomery	1–33	52–84	90.75
12/10	Elk	6–12	85–91	19.25
12/19	Somerset	1–5	92–96	13.75
12/19	Washington	1–7	97–103	19.25
12/20	Luzerne	1–6	104–109	16.50
12/20	Monroe	1–4	110–113	11.00
12/21	Lawrence	1	114	2.75
12/23	Columbia	1–15	115–129	41.25

The Bucks County Medical Society by unanimous vote has decided that "stay-at-homes" will pay the 1919 state society dues for the men in active service.

Clinton County forwards check for absent military members' 1918 dues that were previously remitted by the State Society, with assurance that such remitted dues will be paid for those of its members remaining in military service after Jan. 1, 1919.

Washington County Medical Society by unanimous vote increased its dues from $5 to $10.

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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CHESTER—Henry Pleasants, Jr., M.D., West Chester.
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CLEARFIELD—John W. Gordon, M.D., Clearfield.
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Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

JANUARY, 1919

LEST WE FORGET

THE DEATH TOLL AMONG PHYSICIANS HAS BEEN VERY HEAVY DURING THE PAST FEW MONTHS. LET US KEEP OUR LIFE INSURANCE POLICIES PAID UP. THEN THERE ARE OUR DUES TO THE COUNTY SOCIETY WHICH BECAME DUE THE FIRST OF JANUARY. WE WANT TO BE IN GOOD STANDING IN THE STATE SOCIETY AND ENTITLED TO ITS MEDICAL DEFENSE FUND. IF ANY OF US HAVE NOT ALREADY PAID OUR 1919 DUES LET US SEND OUR CHECK AT ONCE TO OUR OVERWORKED AND UNDERPAID COUNTY SECRETARY, THEREBY SAVING HIM THE NECESSITY OF SENDING US REPEATED NOTICES. PROMPT PAYMENT WILL ALSO SAVE US THE HUMILIATION OF LETTERS FROM THE AMERICAN MEDICAL ASSOCIATION ASKING ABOUT OUR STANDING IN THE MEDICAL ORGANIZATION.

SURGICAL SECTION AT HARRISBURG

The officers of the Surgical Section cordially solicit a number of volunteer papers for the Harrisburg session next September. The sooner the papers are proffered and the titles of the same are given, the better the program can be arranged so as to make it a well-balanced three-day postgraduate course. Titles may be sent to the chairman of the section, Dr. Donald Guthrie, Sayre, or to the secretary, Dr. Ellwood R. Kirby, 1202 Spruce Street, Philadelphia.

OUR PENNSYLVANIA LEGISLATURE

There are two physicians in the present State Senate, Drs. S. J. Miller, Madera, Clearfield County, and George Woodward, Philadelphia, and six physicians in the House of Representatives, Drs. Joseph G. Steedle, McKees Rocks; David I. Miller, Harrisburg; Joseph E. Blanck, Green Lane, Montgomery County; Frank I. Smith, Shohola, Pike County; J. Add. Sprowls, Donora, Washington County, and Howard W. Day, Monessen, Westmoreland

County. These are all good men, but when one considers the amount of public health and sanitation work to be accomplished for the best interests of the commonwealth one might wish that there were as many physicians as lawyers in our legislature.

There being comparatively few physicians in our legislative body, there is the greater need that every physician shall take an active interest in matters that shall come before our lawmakers. There is not a physician in the state who can not exert considerable influence at Harrisburg if only he makes the honest effort. His carefully worded communication will be given consideration by the representatives from his own county. It is not enough to ask the representative to vote for or against a bill, but good and intelligent reasons should be given why he should so vote, and it should be made plain that his vote is asked in the interest of all classes and not for the special benefit of the doctors. What is of even greater importance, the physician can exert a decided influence through patients and friends by taking the time and pains to discuss intelligently legislative matters with those with whom he comes in contact, and the earlier and more frequently this is done the better.

Too often the officers of the state society have been censured for not accomplishing some desirable end or defeating some vicious measure, and this censure has frequently come from individual members of the profession who have failed to work in harmony with the Committee on Public Policy and Legislation. The officers and committees of the state society will closely watch bills at Harrisburg; they will confer with leading members of the profession as well as with state officials and members of the legislature, and decide what course it will be best to pursue. The membership at large will be notified from time to time through The Journal and by communications to the officers of the county societies whether certain bills are to be opposed, favored, or attempts made to amend so as to make them more valuable or less harmful. Let us all work together to accomplish the best results.

When the doctors in one county urge certain measures that the majority are trying to defeat, when one county society opposes certain features of a bill that the Committee on Public Policy and Legislation has found it necessary to accept, or when individual physicians have certain bills affecting medical matters introduced in the legislature without consultation with those in charge of medical legislation, it results in failure. Each county society must act in conjunction with the Committee on Public Policy and Legislation of the state society if satisfactory results are to be secured.

Below is given a list of the senators and representatives:

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STATE NEWS ITEMS

MARRIED

Dr. Walker Atwood Yeakle, Norristown, and Miss Elizabeth M. Wheeler, Towson, Md., November 27.

Dr. Arthur E. Billings, Philadelphia, and Miss Mary Farnum Packard, Bryn Mawr, December 31.

DIED

Dr. Patrick Joseph McNulty (Univ. of Louisville, Ky., '07) in Glenlyon, October 28, from influenza, aged 42.

Dr. Robert Reginald Krueger (Univ. of Pittsburgh, '16) in Vestaburg, November 10, aged 29.

Dr. Paul Orcutt Miller (Jefferson Med. Coll., '15) of Deer Lick at Boulder, Colo., November 18, from pneumonia following influenza, aged 29.

Dr. Eliza F. Pettingill (Woman's Med. Coll. of Pennsylvania, '64) in Philadelphia, December 2, aged 77.

Dr. James B. Shivery (Jefferson Med. Coll., '87) in West Chester, December 1, aged 42.

Dr. Andrew B. Gloninger (Univ. of Pennsylvania, '83) in Lebanon, December 3, from heart disease, aged 57.

Dr. Joseph Augustine McGowan (Univ. of Pennsylvania, '99) in Philadelphia, September 7, from carcinoma of the glands of the neck and throat, aged 43.

Dr. Thomas Lindsley Bradford (Homeopathic Med. Coll. of Philadelphia, '69) in Philadelphia, December 3, aged 71.

Dr. George Elliott Merrick (Coll. of Phys. and Surg., Baltimore, '03) of Pittsburgh, in New Castle, November 5, from heart disease, aged 45.

Dr. Benjamin F. Books (Hahnemann Med. Coll., and Hosp. of Philadelphia, '83) of Altoona, at Colorado Springs, December 22, aged 59.

Dr. Edward Glenn Henry (Univ. of Pennsylvania, '11) of Oil City, in Liverpool, England, November 7, from pneumonia, aged 29.

ITEMS

Dr. James R. Montgomery, Jr., Bloomsburg, is convalescing from an extended sickness.

Major E. Hollingsworth Siter, Philadelphia, in charge of Base Hospital No. 68, A. E. F., will soon take charge of a base hospital in Germany.

Dr. James P. H. Ruddy, Scranton, on duty with the American Expeditionary Forces in France, is reported as suffering from having been gassed.

Dr. Collin Foulkrod, Philadelphia, has been elected to fill the vacancy on the staff of the Maternity Hospital, caused by the death of Dr. Clarence H. Gray.

The Lock Haven Hospital has been presented with three $1,000 U. S. Liberty Bonds by Farmer Stewart as a memorial to his deceased wife, Jane Elinor Stewart.

Capt. Thomas C. Ross, in command of Ambulance Company No. 110, 103d Sanitary Train, was wounded early in September while giving aid to the wounded under fire.

Proposed Memorial Hospital.—A movement is under way to erect a hospital in the Perkiomen Valley as a memorial to the valley's boys who were in the U. S. service.

Dr. Aller G. Ellis, associate professor of surgery in Jefferson Medical College, will go to Siam to organize the department of pathology in the Royal Medical College in Bangkok.

Lieut.-Col. Richard H. Harte, head of Base Hospital Unit No. 10, who recently returned from France, is in the Pennsylvania Hospital, Philadelphia, recovering from a serious operation.

Capt. J. Fred Wagner, Bristol, has been made a major, having been cited for bravery in action in a battle north of La Homme Mort, October 5, when he saved the life of a wounded American soldier at the risk of his own.

The West Chester Hospital has been presented with $300,000 by Pierre S. DuPont, for the erection of a building in "memoriam" of Lewis Mason who was Mr. DuPont's chauffeur and who died of influenza during the epidemic.

Dr. William T. Shoemaker, Philadelphia, who went to France with Base Hospital No. 10, has been made consulting ophthalmologist to all American hospitals in England, an appointment which carries the rank of lieutenant-colonel.

Tablet to Influenza Victim.—A bronze memorial tablet in memory of Dr. William B. Shick was unveiled in the Methodist Episcopal Church, Logan, December 8. Dr. Shick died a martyr to his profession during the recent influenza epidemic.

Dr. Jay F. Schamberg and Lieut.-Col. J. Torrance Rugh, M. C., U. S. Army, newly elected professors in Jefferson Medical College, were guests of honor at a reception given in the Bellevue-Stratford Hotel, December 13, by the Medical Club of Philadelphia.

Major Jackson Stewart Lawrence, M. R. C., attached to the 368th Infantry, colored regiment, was given the distinguished service cross, the highest field honor for bravery, by General Pershing, for saving the life of a negro soldier without regard for his own safety.

Dr. Astley P. C. Ashhurst, who went to France as a major in command of Base Hospital No. 34, Unit of the Episcopal Hospital, has been promoted to the rank of lieutenant-colonel, and placed in charge of all the hospitals in the Mantes Sector. His place as Director of Base Hospital No. 34 has been taken by Dr. Emory G. Alexander.

Pennsylvania Medical Officers Reported Wounded.—Lieut. Sloan A. Brown, M. C., U. S. Army, Coraopolis, slightly; Lieut. Charles C. Ryan, M. C., U. S. Army, Republic, severely; Lieut. J. Armin Stackhouse, M. C., U. S Army, Ambler, degree undetermined; Lieut. Lloyd E. Wurster, M. C., U. S. Army, Philadelphia, severely.

The Pennylvania Optical Society, in session at York, December 31, elected the following officers: president, John H. Flanagan, Philadelphia; vice presidents, J. Faust, Allentown, and E. L. Egolf, Harrisburg; secretary, Robert Rosser, York; assistant secretary, Albert M. McConnell, Pittsburgh; treasurer, Leopold Goldstein, Philadelphia.

Capt. W. C. Hensyl, Berwick, caring for the wounded as they are brought from the battlefield, during the recent offensive in France, became separated from his unit and was alone in No Man's Land when the enemy laid down a barrage. He had difficulty in making his way back to the lines but succeeded in reaching there without a wound.

Orphan Committee. — Acting Commissioner of Health Royer has appointed Drs. Nathan C. Schaeffer, superintendent of public instruction; Samuel McClintock Hamill, Philadelphia; and Wilmer R. Batt, Harrisburg, chairman, secretary and statistician respectively, of the committee to collect information regarding children who were rendered orphans by the recent epidemic of influenza in this state. It is claimed that there are 45,000 such orphans.

Col, John H. Gibbon and Col. George W. Norris, whose war activities overseas covered a period of over eighteen months, have returned home. Both officers went abroad with Base Hospital Unit No. 10, each with the rank of major. At the outset these officers worked with the British forces but later joined the American troops. Colonel Gibbon after a year of service at the front was sent to England and Scotland to study hospitals conducted by the American Forces there. At the end of Colonel Norris' first year in France he was called to the front, serving as medical consultant of the Fourth Army Corps, and was later sent to England as medical consultant of all the United States hospitals in that country.

GENERAL NEWS ITEMS

Dr. Gaston Humbert, professor on the medical faculty of Paris, and surgeon to the hospitals, is dead.

The Crawford Hospital and Boys' Home of India is bequeathed the sum of $100,000 by the will of the late James Crawford of Scranton.

Brigadier-Generals J. M. T. Finney and W. S. Thayer, Baltimore, are reported as having been ordered from France to the United States.

Dr. Henry Michel, Augusta, Ga., who earned a captain's commission in the service of the French Army, before transferring over to the U. S. Army, is the highest ranked American citizen in the French Army.

The Bayer Company, manufacturers of chemicals, dyestuffs, and proprietary compounds, with a large plant at Rensselaer, N. Y., was sold at auction, December 12, to the Sterling Products Company, Wheeling, W. Va.

Major-General William C. Gorgas, M. C., U S. Army, retired, will, on recommendation of General March, be awarded a distinguished service medal for organizing and administering the medical department as surgeon-general.

Major-General William C. Gorgas, M. C., U. S. Army, retired, who recently returned from France, will undertake work as director of war field work for the Rockefeller Foundation, and will soon sail for Central and South America.

Miss Julia Lathrop, chief of the children's bureau of the Department of Labor, and Miss Grace Abbott, director of the Child Labor Division, have sailed for Europe, where they expect to consult with child welfare experts in England, France and Italy.

Field Hospital and Ambulance Company No. 4, commanded by Major John H. H. Scudder, M. C., U. S. Army, Philadelphia, which left the Philippines, September 6, for duty with the American Expeditionary Force in Siberia, arrived in Vladivostok, September 14.

Bequest for Medical Research Work.—Under the will of Capt. Raphael De Lamar, his residuary estate, estimated at $10,000,000, is to be equally divided between the Harvard University Medical School, Johns Hopkins University and the College of Physicians and Surgeons of Columbia University.

What American Chemists Are Doing.—The DuPont Company of Wilmington, Del., has just issued a booklet that will be of interest to every chemist and consumer of chemicals in the United States. It marks the elimination of Germany from our chemical industries. It is a copy of the address delivered by Dr. Charles L. Reese, chemical director of the company, at the annual meeting of the National Association of Cotton Manufacturers, held in New York in May, 1918. Every chemist and consumer of chemicals should write for a printed copy of it.

Council on Pharmacy and Chemistry. — During December the following articles have been accepted for inclusion with New and Nonofficial Remedies: Benzyl Benzoate, Emetine Bismuth Iodide, nonproprietary articles; Emetine Bismuth Iodide-Abbott, Abbott Laboratories; Benzyl Benzoate-H. W. and D., Solution of Benzyl Benzoate, Miscible-H. W. and D., Hynson, Westcott and Dunning; Diethylbarbituric Acid-Merck, Sodium Diethylbarbituric Acid-Merck, Merck and Company; Bismuth Emetine Iodide-Mulford, H. K. Mulford Company; Chlorinated Eucalyptol-Squibb, E. R. Squibb and Sons; Arsaminol, Takamine Laboratory.

Death Rate in Army Lowest in Any War Time. —The health of the American Army both at home and overseas has been excellent and the mortality rate from disease probably lower than in any similar body of troops in the history of warfare, according to the report of Surgeon-General William C. Gorgas, made public December 6. Complete statistics of deaths in army camps are not included in the report, which covers only the fiscal year to June 30, 1918. In 1917 total deaths from disease were 2,984, and the death rate per thousand 6.3. This compares with a seven-year average of 4.9 per thousand. Contrasting this record with that of previous years, General Gorgas points out if the mortality of typhoid fever had been the same as in 1918 there would have been 1,400 deaths from that disease alone, whereas there were only twenty-three. Measles is placed at the head of the diseases causing deaths, although the report shows that 65 per cent. of the deaths were due to resultant pneumonia.

The Annual Report of the Surgeon-General, U. S. Army, for 1918, (including statistics for the calendar year 1917 and activities for the fiscal year ending June 30, 1918), has been issued from the government printing office. It contains a comparative study of the health of the Army, 1820-1917; an account of the health of the mobilization camps and of the Army by countries; a consideration (70 pages in extent) of the principal epidemics in the camps, and a discussion of fractures and operations. Nearly 200 pages are devoted to the special activities of the medical department: with the American Expeditionary Forces, and in the divisions of sanitation, hospitals, supplies, laboratories and infectious diseases, internal medicine, general surgery, orthopedics, head surgery, neurology and psychiatry, psychology, food and the Dental and Veterinary Corps. In addition to the usual tables of illness, discharge for disability and death, there are given tables of battle wounds and operations; of complications of various diseases and of case mortality. The text is illustrated by seventy-three charts. Altogether the report is a study of health and morbidity in an army of over 1,500,000 men, for the most part yet in the period of training. It should be of interest to epidemiologists, vital statisticians and army medical men.

For Better Rural Health.—Much remains to be done in rural districts, according to the annual report of the Secretary of Agriculture, to control such pests as mosquitoes and the hookworm, to eliminate the sources of typhoid fever, and, even more, to give the country districts the advantage of modern hospitals, nursing and specialized medical practice. Noting that many agencies, some of them private enterprises with large funds, are working for improvement, the report says that the Department of Agriculture, through its home demonstration service, is giving valuable aid, and the public health service is increasingly extending its functions. To what extent the further projection of effort is a matter for state or local action remains to be determined, says the secretary, but it seems clear that there should be no cessation of activities until there has been completed in every rural community of the Union an effective sanitary service and, through the provision of adequate machinery, steps taken to control and eliminate the sources of disease and to provide the necessary modern medical and dental facilities, easily accessible to the mass of the people.

THIRD RESUSCITATION COMMISSION.—Under the auspices of the Committee on Safety Rules and Accident Prevention of the National Electric Light Association, the Third Resuscitation Commission met in New York at the Rockefeller Institute, May 17, 1918. The object of the commission, the chairman stated, is to consider efficient methods of artificial respiration in emergency cases, as they are met with in peace as well as in war. For more than a century England has had several life-saving societies, and many special commissions have been appointed to investigate the methods employed in resuscitation. In this country, about six years ago, a Commission on Resuscitation from Electric Shock was created by the initiative of the National Electric Light Association. It is now generally recognized that efficient artificial respiration is, for such conditions, the best and practically the only means available for resuscitation. It requires but little consideration to realize that the need for an efficient means of artificial respiration is very widespread. After presentation of methods and evidence, and discussion of the same, the following resolutions were adopted by the commission:

1. The prone-pressure or Schäfer method of resuscitation is preferable to any of the other manual methods.

2. Medical schools, hospitals, fire and police departments, the Army and Navy, first aid associations, and industrial establishments in general should be urged to give instruction in the use of the prone-pressure method of resuscitation.

3. Individuals who, from accident or any other cause, are in need of artificial respiration, should be given manual treatment by the prone-pressure method immediately, on the spot where they are found. It is all important that this aid be rendered at once. The delay incident to removal to a hospital or elsewhere may be fatal, and is justifiable only where there is no one at hand competent to give artificial respiration. If complications exist or arise, which require hospital treatment, artificial respiration should be maintained in transit, and after arrival at the hospital, until spontaneous respirations begin.

4. Persons receiving artificial respiration should, as much as possible, be kept warm and the artificial respiration should be maintained until spontaneous breathing has been permanently restored, or as long as signs of life are present. Even in cases where there is no sign of returning animation, artificial respiration should be kept up for an hour or more.

5. A brief return of spontaneous respiration is not a certain indication for terminating the treatment. Not infrequently the patient after a temporary recovery of respiration stops breathing again. The patient must be watched and if normal breathing stops, the artificial respiration should be resumed at once.

6. Artificial respiration is required only when natural respiration has ceased. In cases of simple unconsciousness from any cause in which natural respiration continues, artificial respiration should not be employed without medical advice.

7. The commission recommends that in cases of gas asphyxiation, artificial respiration, whether given by a manual method or by special apparatus, should be combined, when possible, with the inhalation of oxygen from properly constructed apparatus.

8. With regard to the employment of mechanical devices for artificial respiration the commission feels that it ought not at present to take a definite stand either for or against any particular form of apparatus. However, the commission recommends that the use and installation of apparatus should be confined, for the present, to properly equipped institutions under medical direction. The commission recognizes the great need of simple devices capable of performing artificial respiration reliably and efficiently. It, therefore, recommends a careful study of the problem, directed toward the development of a reliable method appropriate for general adoption. Such studies can best be carried on in a properly equipped hospital and laboratories which offer opportunities and facilities for critical observation and experimentation.

It was voted that the Third Resuscitation Commission should be properly organized and continue its existence, ready to respond when requirements arise. The following officers were elected: President, Dr. S. J. Meltzer; vice president, Dr. Yandell Henderson; secretary, Dr. Reid Hunt; treasurer, Mr. W. C. L. Elgin.

BULLETIN EXCERPTS

MEDICAL MONTHLY, BUCKS

There seems to be a sentiment developing in our country to erect memorials to the bravery of our soldiers in battle and to those who have made the supreme sacrifice. May we suggest that these memorials shall be of humanitarian nature or kind. The brave men and women who did all they could do to make the world safe for humanity will be better honored by establishing a hospital for the sick and injured in our county seat, at Newtown or Langhorne, and in endowing beds in the Grand View Hospital. By doing this the lives that were lost, and the privations and sufferings that were endured will be recompensed by the sufferings relieved and the lives saved through these instrumentalities. As those who worked and fought and died for humanity can be usefully honored and remembered by the practical application of relief to the sick and injured, then why divert the great good to a marble slab that poorly satisfies the purpose for which it was made?

WEEKLY BULLETIN, ALLEGHENY

WHAT IS MEANT BY ORGANIZATION

A firm organization means, of course, that unity of purpose shall exist and that the whole-hearted support of every member be given to support scientific advancement, to educate the public and to gain proper legislation in order that the welfare of our people shall be cared for in the proper manner. We have been criticized for saying these things by men in our own society. Just recently one man said he would never attend a county society meeting until the daily papers had been made to omit quack and patent medicine advertising. He even cited instances where he regarded some of our members as guilty of breach of ethics. He said further that the editor was a "dreamer" and an "idealist," when he referred to the power of our united effort.

As to his criticism of our members we personally feel that a misunderstanding existed, and we will repeat here what was said to our critic: "If there be such a state of affairs at any time the man who has the welfare of our profession at heart will immediately seek the counsel of our Board of Censors, and failure to do so is of itself an injustice to everyone in our society."

As to the question of newspaper advertising, we know that the press is a financial institution primarily, and so long as our legislature legalizes quackery we can scarcely expect that they shall discriminate against legalized mischief. It is only fair to say that certain newspapers of this city have tried to clear their columns of at least the worst of these. Without the public press our nation would be a sad spectacle, and it is often a wonder that it is conservative as it is when certain men who do not support us, give out statements which are, to say the least, premature and not consistent with the truth.

We have explained to the best of our knowledge the plan for the betterment of conditions. We would say to our critics that the first and the most important move on our part must be the creation of a proper attitude of the legislature, and if this is possible without concerted action we are willing to cease our effort.

There is no question even in the minds of our critics that the only sane way to approach such a problem is through our medical organization.

These remarks are idealistic we admit, but it is only in keeping with the highly unselfish motives of a body of men who have the welfare of our people at heart.

The public having no medical training is peculiarly placed in a position where it must judge the relative merits of medicine and quackery. Even in this age of intellectual advancement superstition plays a mighty rôle, and it has stood in the way of science from time immemorial. It is for this reason that we have advocated strongly the education of the public in matters medical by physicians and not by sociologists, competent and otherwise, who would seek to stand as saviors of mankind. It is high time that we begin our work, it will not be an easy task, and can only come through concerted effort.

It is for these reasons we advocate firm organization. Without attendance at our meetings, without the inclusion in our membership of every eligible physician in the community, our efforts will fail, and I am sure no one in our society will be so neglectful of his duty toward his fellow-physician and the things for which he stands professionally, that he will fail to give us his entire support.

WEEKLY BULLETIN, ALLEGHENY

What Must Be Done

As we have said before, the closing of the world conflict brings to us a series of difficult problems. Not only must we repay a debt of gratitude to the men who have gone to the service but we must so adjust conditions here that on their return the attitude of the community toward medicine generally shall be such as to make their work agreeable at least. The plan adopted by our Medical Protective Committee has been successful in a degree which reflects credit on the men who have so ably conducted the work. It has been of necessity a difficult task to insure justice being done to our men in the service. There is no one who can in any way find fault with the high principle on which this organization was founded. Certain members of the committee have been indefatigable in their effort to assure a complete success. There have been complaints, to be sure. We are daily told that this or that member in the service has been treated unjustly. The committee has dealt wisely with disputes, and, as far as we can learn, in every case of disagreement, a misunderstanding existed.

We do not for a moment believe that every man in the service has received what was due him, since we have had to depend on the word of the patient consulting the physician and, due to a peculiar state of mind, many have insisted on deceiving the one who attended them by saying that they had never consulted any physician. We earnestly hope that, in some cases which have come to our attention, if the injustice to men in the service be not due to misunderstanding, that reparation will be made, for it is hard to plead that we are altruistic if we have not done what is fair by our soldier brother. Some men seem to think that this is charity to our absent men, but we are a family and charity within a family is not charity. We must be benevolent at all times, but within a period of strife, fairness and justice to men who have stood to sacrifice their very lives should transcend all other things, and because hostilities have ceased is no reason that we should forget our duty toward them. We must continue as we have, to share with them our material good.

More than this, as we have sensed before, it is our duty to stand for those things which shall make democracy safe for him who has striven so hard to make the world safe for democracy. As you see, the editor questions the democracy of our present system, which permits of legislative juggling of our professional attainments. We must, therefore, again plead that our members be zealous in their efforts to welcome our returning heroes with a firm and sound society which can assert itself and insist on justice for the medical profession. We have urged attendance at meetings that our society may grow as a scientific factor, and that we may educate our community as a society of our proportions should. An amendment has been introduced to increase our dues in order that we may pay to the state society the *per capita* of men in the service. We ask this only for the present year, and we are sure that no one will fail to support so noble a cause. Let us cooperate with our state organization and assist them in their meritorious work of promoting legislation which shall benefit our commonwealth. If there be any doubt in the mind of the reader as to whom the editor is speaking, when he urges attendance at our meetings, let the humble editor assure him that he means no one else but the reader himself, if he be a member in good standing.

COMMUNICATIONS

LIST OF PHYSICIANS ENGAGED IN INDUSTRIAL PRACTICE

To the Editor:—Will you kindly call attention in the next issue of The Journal to the fact that I am desirous of obtaining a complete list of all physicians engaged in the practice of industrial medicine?

It has been the practice of this department for several years to hold semiannual conferences of industrial physicians and surgeons. These conferences are well attended, and a great deal of valuable matter is presented in the discussions. In order to reach all physicians interested it is desirable to have their names on our mailing list. The next conference will be held early in 1919, and it is, therefore, essential that the names and addresses of all industrial physicians and surgeons be in my hands as soon as possible after January 1.

Very sincerely yours,

Frances D. Patterson,

Chief, Division of Hygiene, Department of Labor and Industry.

Harrisburg, Dec. 23, 1918.

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A Textbook Of Home Nursing. Modern Scientific Methods for the Care of the Sick. By Eveleen Harrison. Second edition revised. New York: The Macmillan Company, 1918. Price, $1.10.

Equilibrium and Vertigo. By Isaac H. Jones, M.A., M.D., Laryngologist, Philadelphia General Hospital; Instructor in Neuro-Otology, University of Pennsylvania Medical School; Associate, American Otological Society; Major, M. R. C., U. S. Army. With an Analysis of Pathologic Cases, by Lewis Fisher, M.D., Laryngologist and Otologist, Mount Sinai Hospital, Philadelphia. Adopted as Standard for Medical Division, Signal Corps, Aviation Section, by Surgeon-General, and Chief Signal Officer, U. S. Army. With 130 illustrations. Philadelphia and London: J. B. Lippincott Company. Price, $5.00.

Mental Diseases. A Handbook Dealing with Diagnosis and Classification. By Walter Vose Gulick, M.D., Assistant Superintendent, Western State Hospital, Fort Steilacoom, Washington. Illustrated. St. Louis: C. V. Mosby Company, 1918. Price, $2.00.

Information for the Tuberculous. By F. W. Wittich, A.M., M.D., Instructor in Medicine and Physician in Charge Tuberculosis Dispensary, University Hospital, Minneapolis, Minn. St. Louis: C. V. Mosby Company, 1918. Price, $1.00.

Physiology and Biochemistry in Modern Medicine. By J. J. R. Macleod, M.B., Professor of Physiology in the University of Toronto, Toronto, Canada; Formerly Professor of Physiology in the Western Reserve University, Cleveland, Ohio. Assisted by Roy G. Pearce, B.A., M.D., Director of the Cardiorespiratory Laboratory of Lakeside Hospital, Cleveland, Ohio; and by others. With 233 illustrations, including 11 plates in colors. St. Louis: C. V. Mosby Company, 1918. Price, $7.50.

A Compend of Genito-Urinary Diseases and Syphilis. Including Their Surgery and Treatment. By Charles S. Hirsch, M.D., Urologist to the Jewish Hospital and Mount Sanai Hospital, Philadelphia. Third edition, revised. With 59 illustrations. Philadelphia: 1012 Walnut Street: P. Blakiston's Son and Company. Price, $1.50 net.

Massage and the Original Swedish Movements. Their Application to Various Diseases of the Body. Lectures before the Training Schools for Nurses Connected with the Hospital of the University of Pennsylvania, German Hospital, Woman's Hospital, Philadelphia Lying-In Charity Hospital, the Philadelphia Polyclinic and College for Graduates in Medicine, and the Kensington Hospital for Women of Philadelphia. By Kurre W. Ostrom, from the Royal University of Upsala, Sweden. Eighth edition, revised and enlarged, with 125 illustrations. Philadelphia: 1012 Walnut Street: P. Blakiston's Son and Company. Price, $1 net.

Paper Work of the Medical Department of the United States Army. A Guide for Administrative Work. By Ralph W. Webster, M.D., Ph.D., Major, Medical Corps, U. S. Army; Instructor, Basic Military Course, and Adjutant Camp Greenleaf, Chickamauga Park, Ga.; Formerly Instructor at the Medical Officers' Training Camp, Fort Riley, Kan; Author of Diagnostic Methods, Chemical, Bacteriological and Microscopical. Approved for publication by direction of the Surgeon-General of the U. S. Army. Philadelphia: 1012 Walnut Street: P. Blakiston's Son and Company. Price, $5 net.

BOOK REVIEW

THE SURGICAL CLINICS OF CHICAGO. Vol. II, No. 5. October, 1918. Pages 193; illustrations 87. Philadelphia and London: W. B. Saunders Company.

This number of the valuable publication from Philadelphia equals in standard other numbers recently reviewed. Divers clinics appear from well known, as well as less renowned, operators of the metropolis of the middle west. General surgery, orthopedics, genito-urinary surgery, gynecology and obstetric surgery are represented. Valuable illustrations are inserted which make clear points which otherwise would require many lines of letter press. Dr. Bevan in an interesting discussion of the treatment of abscess of the lung calls attention to the occurrence of pulmonary abscess and of brain abscess arising in his experience as sequels to removal of the tonsils. This complication of what is looked on by many as a minor operation is very impressive. It is to be hoped that it will be remembered by those submitting their patients to what is a too frequently performed operation. A critical reviewer would probably call attention to the fact that a better word to describe the operation than tonsillectomy is amygdalectomy. This, of course, is to avoid hybrid words for the same reason that oöphoritis is proper rather than ovaritis and stomatitis rather than oritis. Another criticism of like nature is the use by Dr. Eisendrath of the term, acute abdomen. Dr. Eisendrath's clinical lecture is exceedingly valuable for postgraduate study; but the writer does feel a little irked when he hears a gynecological operator speak of removing all "the pathology" from the pelvis and a learned surgeon talking of an "acute" abdomen. Why not speak of a "chronic" tooth, or of an "acute" skin? J. B. R.

SOCIETIES

PHILADELPHIA LARYNGOLOGICAL SOCIETY

Meeting of Dec. 4, 1918, in Cadwalader Hall, College of Physicians

Abducens Paralysis Occurring in Acute Suppurative Otitis Media with Mastoiditis. Dr. Otis Stickney reported two cases.

Case 1. Female, aged 6, developed S. O. M. following rhinitis. March 26 she complained of pain in the left frontal region, more severe when the discharge ceases. Tongue was heavily coated and patient looked ill. There was no sagging of P. S. wall of canal. The left mastoid was slightly tender to pressure. March 29, the condition was about the same. The child had been closing one eye off and on for a day and a half. When asked why she did that, the reply was "that she would see double with the eye open" whereas with the eye closed she would see one object where there was but one. In the dark room, with the candle flame and red glass held before one eye, patient was found to have a horizontal homonymous diplopia, caused by a well defined paresis of the left external rectus muscle. A mastoid operation was performed immediately. The cells were found broken down and the resulting cavity filled with pus and granulations. A small portion of the dura was exposed and found normal. The ear discharge ceased in one week. The double vision became less each day and entirely disappeared in two weeks. April 24, wound entirely healed and child in good health.

Case 2.—Female, aged 34, had influenza followed by spontaneous rupture of M. T. in twelve hours. Three weeks later she complained of pain in left ear and in the corresponding side of face and teeth; anorexia and prostration. Canal was filled with purulent discharge; a small perforation at the apex of a teatlike elevation in the posterior superior quadrant; slight tenderness to pressure over the posterior part of mastoid. Perforation was enlarged with no change in the condition. Temperature varied between 98 and 100 and she was toxic. Five days later patient complained of double vision, increased when she looked to the left, and she was unable to abduct her left eye. The mastoid was opened and cortex found thickened, cells containing only serum and granulations. One cavity in the posterior part of the mastoid, the size of a chestnut, was filled with pus. There was no improvement following the operation and the discharge continued for two weeks. A second operation was performed and this time the tegmen mastoideum was removed and dura exposed. The tegmen was found congested, as was also the dura, and that portion of the dura above the roof of the middle ear was very adherent and after elevating it from the bone a plastic exudate was seen. The bone covering the descending limb of the lateral sinus was removed. A narrow iodoform gauze drain was inserted between dura and bone, the lateral sinus was protected by a separate piece and a third piece was introduced into the aditus ad antrum and the remainder of the mastoid cavity. In five days the discharge ceased, all symptoms began to disappear and mastoid wound was clean. Ten days later the eye symptoms improved and Dr. Stickney has no doubt that the abducens nerve will soon be completely restored.

In Case 1 Dr. Stickney believes the paralysis of the left external rectus muscle was due to a toxic neuritis as the dura over the tegmen of the mastoid appeared normal. In Case 2, the abducens involvement was due to a localized basilar pachymeningitis, as the dura in the region of the roof of the middle ear and mastoid was thickened, reddened and adherent and showed an exudate in the region of the tegmen tympani. The abducens nerve, as it traverses the apex of the petrous portion of the bone, was involved in the inflammatory process.

Misleading Symptoms in the Diagnosis of Mastoiditis. By Dr. Dikran M. Yazujian: In his discussion on this well timed subject, Dr. Yazujian mentioned briefly a case of traumatic mastoiditis without perforation and a second case which somewhat puzzled him as to a diagnosis between subperiosteal abscess and mastoiditis.

Oculo-Sinus Disease Illustrating the Difficulty of a Positive Diagnosis of a Causal Sinus Disease. Dr. William A. Hitschler reported three cases. The history of each was more or less vague as to a possibility of etiology and the main point at issue was, "Who is to assume the responsibility for results after operation, the oculist or the rhinologist?" In Dr. Hitschler's view the oculist is the man to assume such responsibility.

In Case 1, a seamstress, with a history of nasal catarrh, was referred, presenting or having a central scotoma with retrobulbar pressure. On the insistence of the oculist for some surgical interference the middle turbinate was removed. Mucus and some colloid material were released and a cure resulted.

Case 2.—Patient, with a similar vague history, was a clergyman with asthenopia of the left side. The maxillary sinus was cleared of a colloid material, resulting in a cure and a second score for the oculist.

Case 3.—Female, with choroiditis and iritis and suffering from "nasal catarrh." The maxillary sinus was negative; roentgen-ray examination was negative and the removal of the left middle turbinate thus far has not given any relief.

Dr. Harry A. Schatz demonstrated a skull with an anomalous situation and diminutive size of a maxillary sinus.

Dr. D. N. Husik presented an infant, five months old with alar collapse following a septal abscess. Suggestions are wanted as to how to correct this collapsed nose. The condition suggested lues but Wassermann tests on the parents' blood proved negative.

Dr. Henry A. Laessle read a paper, "Nasal and Pharyngeal Sequelæ of Influenza."

Dr. Harry Wieder demonstrated a new and safe face mask for direct laryngoscopy in tuberculosis. In brief, it consists of a hood made of muslin reaching to the elbows with two openings permitting a pair of spectacles of large size.

Herman B. Cohen, Reporter.

COUNTY SOCIETY REPORTS

LEBANON—DECEMBER

The Lebanon County Society met at the Hotel Weimer, Lebanon, December 17, with twenty-two members present, President Marshall presiding.

Dr. M. Howard Fussell, Philadelphia, addressed the members on the subject of "Influenza."

He gave a brief history of the disease covering a period of a hundred years or more, during which it appeared that the disease had broken out in epidemic form at periods of from three to ten years, although it had never spread so rapidly as this year. Advanced methods of travel and quicker communication between the people of different countries and cities is probably responsible for this. He thought that the epidemic of 1889 had perhaps stricken more people than this year and lasted longer, but those cases appeared to be mostly simple influenza and did not by any means bring about the frightful scourge in mortality that the disease brought this year.

In many hospitals the mortality ran as high as 36 per cent., but the figure was not proper as a criterion, since the hospitals necessarily receive mostly the most advanced cases. Illustrating this point, he showed that at one of the military camps where there were some thousands of men, and where all who were sick, whether seriously or only slightly affected, were treated at or through the hospital, the mortality rate was only 13 per cent. The patients at the military camps also had the advantage of immediate treatment as soon as they were stricken. He is firmly convinced by his own investigations that when a case of influenza continues for five or six days, there are always pneumonia complications. He says that his own necropsies supported his verdict. He also gave some interesting statistics regarding ages of victims. He said that of 153 cases under observation, ninety-three were between the ages of 20 and 30 years, and 90 per cent. under 40 years of age.

Dr. Fussell proved conclusively that the disease is highly infectious, and is spread by inhalation or consumption of germs from sputum, etc., and through personal contact, but even in this he declared there was a divergence of opinion, as public reports (though not official) were to the effect that New York suffered less than Pennsylvania though this state was closed up for a period while New York was not. He showed, however, that in many instances where institutions had been placed under strict quarantine, and where absolutely no one was allowed either in or out, the disease had been kept out absolutely. One of these was at the Yale Campus quarters, where not an inmate was afflicted. While he admitted that he was not in accord with some other medical practitioners on the subject, he thought the Pennsylvania closing proposition was successful to an extent, and would have been more so had there been a more rigid enforcement and a more drastic close-up.

Dr. Fussell declared that there is absolutely no foundation for treatment of influenza by inoculation, and so far as his training and experience were concerned, he considered the use of inoculation as unethical, and improper from a theoretical standpoint. He frankly admitted, however, that he is strongly prejudiced in this regard, and that his opinion in that respect is not shared by some other authorities. He would not commit himself to a statement that it is harmful, and would not say positively that it was not an efficient prophylactic, since no one seems to know positively, and he therefore admonished his hearers to be careful and use good judgment, since it is positive knowledge that at least some who were inoculated were afflicted with the disease and some had also died.

He made another statement which found a most responsive chord, since it corroborated local experience, when he stated that an appalling number of people had died in Philadelphia, because they went out too soon after an attack of influenza.. He said that the patients thought themselves well enough to leave their beds in a day or two after being stricken, and in cases where a relapse was suffered, they died. He discussed symptoms, treatment and other phases of the disease at length, and admitted that nearly every deduction that had been made was controverted by experiences encountered in other cases that would tend to reverse conclusions arrived at on previous cases, but wound up with the declaration that the elemental treatment is to keep the patient in bed and entirely warm, but with plenty of fresh air. In his estimation the use of oxygen is practically worthless for this type of pneumonia, as it had been tried repeatedly in many cases without a bit of success to warrant further experiments in that line.

At the close of the address the physicians were served a turkey dinner which was greatly enjoyed by all. S. P. Heilman, Reporter.

PHILADELPHIA—NOVEMBER

The Philadelphia County Society met November 27, 8:30 p. m., President Hammond in the Chair. A symposium on the Complications and Sequelae of the Recent Epidemic was presented.

Dr. Thomas McCrea read a paper on "Medical Complications and Sequelae." A great many of the statements regarding the recent epidemic would not have been made if men read history a little more. Whatever its etiology, influenza is a disease which occurs about three times in a century. Naturally a great many medical men do not have a chance to see it more than once; some see it twice; none, three times. Consequently it comes as a more or less new disease to the great majority of the profession. Considering that the disease is a multiple infection, the wonder is that complications occur so rarely. Edema of the lungs is one of the most striking complications among those of the respiratory tract; when associated with pneumonia, however, death, which usually occurs, is the result of the pneumonia and toxemia. Pneumonia is a feature of the disease rather than a complication of influenza. Following the epidemic of 1890 we saw a number of curious, atypical cases of pneumonia, shifting from one apex to another in a way to make one question his diagnosis. A generation has grown up which knows nothing about that phenomenon and we shall probably see in the next two or three years a number of cases diagnosed tuberculosis when we really have a postepidemic influenzal pneumonia. There has been also in many cases a peculiar persistence of consolidation. The longest time in which I have observed this has been nine weeks. It then entirely disappeared. The occurrence in many cases of slightly bloody serous effusion, small in amount and which has been responsible for many of the atypical cases, has been one of the particularly interesting signs in the pleura. A curious feature of the influenzal pneumonia cases has been the occurrence of fibrinous pleurisy after the recovery of the patient. The question arises whether this is a tuberculous pleurisy, but I am inclined to regard it as a remnant of the disease.

In many of these cases, with the well marked percussion note, there is practically no pain. In the majority of cases of influenza the patient went through the attack without serious heart involvement. Personally I saw endocarditis only once; pericarditis impressed us as to its rarity. Of particular importance is the condition of the heart after the attack. In comparison with the epidemic of 1890 we are having, apparently, not 1 per cent. of the cardiac disturbances after the disease is over that we had at that time. A striking feature of the vasomotor system is the curious cyanosis which comes on quite early. The low blood pressure was striking and formed a feature of considerable prognostic importance. The early nose-bleed was not in my experience of favorable prognostic import. I saw only one patient with severe intestinal hemorrhage who recovered. The severe toxic condition in these cases was probably akin to that seen in yellow fever. In all the cases dermatitis purpura was extreme. Jaundice was very common if one looked for it, being largely of a low grade. In a few cases it looked like the jaundice of acute yellow atrophy. The glands of the body suffered, particularly the parotid. In the effect on the nervous system we saw two extremes, a severe depression and a condition of exhilaration. One patient within an hour of death was very cheerful, saying that he never felt better. Those of us who saw the disease in 1890 will remember that one of the features was the profound depression which it left, and in many cases the effect on the nervous system lasted for one or two years. Following the last epidemic there were seen at medical clinics many cases of bronchiectasis in many of which the influenza bacilli pure culture could be obtained. This should be borne in mind at the present time. We have every reason to suppose that following this epidemic there will be a great increase in tuberculosis in the next year or so. Personally I have been impressed with the number of patients who following the influenza have had large profuse pulmonary hemorrhage. In the majority of these cases it has been impossible to say whether the hemorrhage has been the result of some lesion of the influenza or whether it meant tuberculosis. We must, therefore, be particularly careful in our examinations with the possibility of tuberculosis in mind.

Dr. John B. Deaver read a paper on "The Surgical Complications and Sequelae of Influenza." George B. Wood in the fifth edition of his Practice of Medicine (1858) described an outbreak in Rome in 1850 during which 9,000 persons are said to have died of the disease. In several patients, recently recovered from influenza and coming to operation for intestinal obstruction, the intestines were knotted and bound down by plastic exudate and adhesions somewhat resembling a tubercular peritonitis. While the impression was gained that this was the direct result of the influenza, there was no positive evidence of the fact. Many of the increased number of cases of appendicitis in influenza years are most likely so-called pseudo-appendicitis due to the gastrointestinal symptoms frequently part of the syndrome of influenza; others are undoubtedly genuine appendicitis resulting from the increased virulence of the usual intestinal micro-organisms, and particularly from a predisposition on the part of the patient to appendix trouble. The explanation of lowered resistance and diathesis undoubtedly serves for the various neuralgias, diseases of the bones and joints, as well as for phlebitis, parotitis and other resulting conditions requiring operation.

The recognition of pus in the thoracic cavity is of the utmost importance to the surgeon. When the fluid is seropurulent or purulent, withdrawal by aspiration is desirable as a preliminary step to thoracotomy or rib resection. A rational operation for empyema is the one devised by Lilienthal in which a wide opening in the thoracic cavity is obtained by means of a long costal incision and wide rib spreaders. The wound is closed completely except for a wick of rubber tissue at each end of the incision. In the streptococcic pleuritis observed in epidemics of pneumonia occurring during the past year at the various training camps, late operation, rather than early, as in the pleuritis following ordinary lobar pneumonia, gave the better result. It is desirable that all pneumonia cases at the end of the second week be subjected to roentgen-ray examination, for early detection of the presence of fluid not evidenced by physical signs. Dr. Henry K. Pancoast states that effusion in influenzal empyemas shows a ready tendency to become plastic and to wall off. In such cases the pleura becomes thickened and the lungs are crippled by the resulting adhesions. In the total thirty-five cases treated by us, thirteen were interlobular empyemas, several of which had ruptured into the lung, and in one instance pus from the general cavity had broken through into the lung. Thoracotomy, except in rare instances, is decidedly not the proper procedure in these cases. The operation of choice for empyema is rib resection, opening the pleural cavity and exploration with the gloved finger or hand, flushing and wiping the cavity with Dakin's solution and providing continuous and free drainage until the fluid returned is practically sterile. Closure of the wound is a matter of circumspection unless there is a free expansion of the lung. In our thirty-five cases of influenzal empyema our mortality has been 11.6 per cent.

Dr. Edward P. Davis read a paper on "Influenza in Parturient Women." The parturient woman, for anatomic and physiologic reasons, was a favorable subject for the recent epidemic of influenza. In the mild attack of the disease abortion or premature labor did not occur. In the severe cases a hemolytic germ was evidently present, producing a rapidly fatal toxemia. Striking evidence of disintegration of the blood was observed in many of these cases. In early pregnancy many aborted; in those near term, labor occurred; in midpregnancy, interruption was rare. Among the interesting complications and sequelae were abortion followed by persistent and often fatal hemorrhage; mammary abscess; noma or swelling of the tissue about the mouth preceded death and pernicious nausea and vomiting; occasional pulmonary embolism. In prophylaxis much was accomplished by keeping away from crowds and the disinfection of nose and throat with mild saline antiseptics. The firm belief that if attacked death would not inevitably ensue was of great assistance. The prompt isolation of the patient was useful in limiting the disease. So soon as a pregnant patient was attacked with nasal and bronchial catarrh with rise of temperature however trifling, she was put to bed; the bowels were freely emptied, a liquid diet with abundance of water was given and the patient kept warm by blankets. Sweating was encouraged and the nose and throat disinfected. With a tendency to congestion over the bases of the lungs dry cupping was very useful; applications of camphorated oil were also of value. Local foci of infection were treated as indicated; mammary abscess was thoroughly drained. The giving of acetanilid, phenacetin, salol and aspirin was peculiarly injurious. A safe clinical rule in dealing with pregnant patients is not to interrupt the pregnancy in the presence of acute bacterial infection. That the child often escaped the disease was especially true when it was not nursed. The maternal mortality closely resembled that of puerperal septic infection. Where the streptococci did not enter the blood and were not hemolytic the mortality rate did not exceed 10 to 20 per cent.; where they did enter the blood and were hemolytic the mortality rate rose from 50 to 75 per cent. There was no positive decision that serums and vaccines gave protection of hastened recovery. Sterile horse serum was, however, of value in actively toxic cases.

"Nose, Throat and Ear Affections Complicating or Following the Recent Epidemic of So-Called Influenza, with a Ventured Interpretation of Their Significance" was presented by Dr. J. Leslie Davis. There seems to be a common agreement that practically every case of so-called influenza at some stage of the disease manifests symptoms of varying degree of the upper respiratory tract. The most characteristic feature of these conditions was the utter lack of any special order of invasion or degree of persistence. Reports from army, navy and civilian hospitals show the contrasts in the various structures and tissues involved, and variations in the predominating bacterial organisms. A characteristic feature was the precipitateness of invasion of the disease following the appearance of the first cases regardless of whether or not those attacked had been in contact with the already infected. This was as true of sparsely populated districts as in a grouping of many people. Bacterial research seems to have failed to isolate any specific organism as the exciting cause, but has found in practically all cases the usual group of bacteria common to infections of the respiratory tract, their order or predominance varying in different localities and in different individuals in the same locality.

The character of atmosphere that seems most frequently to predispose in normal times to infections of the upper respiratory tract is that usually preceding a storm. The greater the meteorologic disturbance the more common and more marked are the symptoms observed. The meteorologic state seems to favor the development of two conditions influencing the rapid spread of infection—proliferation and increased virulence of the host of bacterial organisms habitually present in the nose and throat; and, second, weakening of tissue resistance to bacterial invasion. Lowered blood pressure, insufficient hepatic secretion, and toxemia are the usual accompaniments of such infections. Whether the lowered blood pressure with its effect on the mucous membrane is the initial step in the the infection, or whether the circulatory disturbance and the membranous congestion in the head are both results of toxemia are questions for further investigation. In my experience the toxic effect of diseased faucial tonsils is a more dominant and constant factor than their infective influences and the chief deleterious effect is felt on the liver. Considering the whole symptom complex of the disease and the fact that meteorologic conditions over the whole earth have shown unusual disturbances during the past two or three years, the probability of such meteorologic disturbances being a causative factor in the great pandemic seems to be an interpretation worthy of more than passing consideration.

Dr. F. J. Kalteyer: A point of considerable interest is that this disease apparently occurs in all climates at any season of the year and under almost all conditions. While many have attempted to attribute its spread to atmospheric conditions, we often find that it spreads against prevailing winds, that it will occur at the same time in the tropics and in Iceland, and that it attacks all classes of individuals. I was interested to know whether the pneumonia was due to the extension of inflammation from the throat or whether it developed in the absence of this. Pathologists whom I consulted differed on this point. I sometimes wonder whether some of the complications are not directly attributable to the cough mechanism which perhaps influences the drainage of the eustachian tube and leads to ear complications. Personally I have been impressed with the great importance of the early treatment of cough. In some of the cases of the so-called cardiac type the attack began as an ordinary influenza but in a short time there was rapid development of cardiac asthenia and death followed within a few hours. We are now seeing some of the cases of myocardial weakness the result of the epidemic. Another condition of great interest and frequent occurrence was that of vomiting with abdominal distention and occasional diarrhea dominating the whole symptom complex. The complications were much influenced by the previous health of the patient; those with a previous nephritis or chronic valvular disease generally had their pneumonia without crisis, death occurring in the course of a few days. Unfortunately, as mentioned by Professor Davis, there was among the profession the tendency to give drugs which were depressants. These had a most unfavorable influence on the disease, particularly toward the end of the fever.

Dr. D. L. Despard: I have been impressed with the comparatively few complications during the epidemic requiring operation. A possible explanation may be found in the experience at two of our hospitals where, in 299 cases admitted, 130 developed bronchial pneumonia. Of that number ninety-one died, or 70 per cent. None of those died who had no lung involvement. I have seen no cases of appendicitis which I could definitely trace to this epidemic, although I have observed a number occurring three or four weeks following the attack of influenza. In the rib resections I have resected enough to allow exploration and breaking up of adhesions. I have not irrigated any more than I would in general peritonitis, or curetted to a greater degree than in the walls of an ordinary abscess cavity. Within the last two months I have operated on twelve or fourteen cases of empyema; up to this time one has died.

Dr. Richard C. Norris: In the past epidemic we have really had two epidemics, one of influenza due to its specific organism, and a widespread epidemic of bronchopneumonia frequently associated with streptococcic germs. During an epidemic one must realize that no part of the community is more susceptible to its ravages, no matter what the infecting germ, than the pregnant and parturient woman who is giving up of the precious elements of her life for the unborn member of the human family.

SOMERSET—DECEMBER

The Somerset County Society met in a postponed regular session on December 10, in Rockwood, with a small attendance, notwithstanding it was time for the election of officers and squaring accounts for the past year. The following officers were elected for the coming year: president, Dr. G. F. Speicher, Rockwood; vice president, Dr. A. M. Lichty, Salisbury (Elk Lick P .O.); treasurer, Dr. C. M. Frantz, Confluence; secretary, Dr. H. C. McKinley, Meyersdale. Dr. W. S. Mountain who had been treasurer ever since 1892, died last October at the age of "three score and ten." The books of the officers were audited and found in good shape with a small amount in the treasury. It was decided that the *per capita* assessment for state society purposes, which were remitted last year for those members in the U. S. Service, should be paid this year, and the dues of members were advanced to $6. Most of those present at the meeting paid the dues for 1919. The secretary will make an urgent plea in the Call for the January meeting that all members pay promptly so that the county society may do its share to furnish the state society treasury with funds to meet its obligations. The influenza epidemic has been quite severe in this county and this has somewhat disarranged our program for a very splendid start in 1919, but as it has abated somewhat we will start afresh to accomplish a large increase in membership and interest during the year. Our society has not been visited by a district councilor for some years and we are looking forward to such a visit soon in the coming year. Such visits have been very helpful in the past and we hope to have them renewed.

H. C. McKinley, Reporter.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1918, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Emetine Bismuth Iodide.—A complex iodide of emetine and bismuth containing from 17 to 23 per cent. of emetine and from 15 to 20 per cent. of bismuth. It has the action of emetine, but when taken by mouth, it is less likely to cause vomiting than the soluble salts of emetine administered orally. It has been used with apparent good results in the treatment of chronic cases and carriers of amebic dysentery, even where the hypodermic adinistration of emetine has failed. The commonly used dose has been 0.2 gm. (3 grains) daily for four days, either in a single dose at the midday meal or in divided doses.

Emetine Bismuth Iodide-Abbott.—A brand of emetine bismuth iodide complying with the N. N. R. standards. The Abbott Laboratories, Chicago.

Bismuth Emetine Iodide-Mulford.—A Brand of emetine bismuth iodide complying with the N. N. R. standards. The H. K. Mulford Co., Philadelphia.

Cachets Bismuth Emetine Iodide-Mulford, 2 Grains.—Each cachet contains 2 grains of bismuth emetine iodide-Mulford. The H. K. Mulford Co., Philadelphia.

Creosote Carbonate-S. and G.—A brand of creosote carbonate, U. S. P. Schering and Glatz, Inc., New York.

Guaiacol Carbonate-S. and G.—A brand of guaiacol carbonate, U. S. P. Schering and Glantz, Inc., New York (*Jour. A. M. A.*, Dec. 14, 1918, p. 1997).

Benzyl Benzoate.—The benzyl alcohol ester of benzoic acid. It lowers the tone of unstriped muscle and has been suggested as a remedy against renal, biliary, uterine and intestinal colic and other spasms of smooth muscle, including angiospasm. Its clinical use is in the experimental stage. The dose is from 0.3 to 0.5 c.c. (5 to 7 minims). Benzyl benzoate is a liquid at room temperature, insoluble in water, but miscible with alcohol, chloroform and ether.

Benzyl Benzoate-H. W. and D.—A brand of benzyl benzoate complying with the tests and standards of N. N. R. Hynson, Westcott and Dunning, Baltimore, Md.

Solution of Benzyl Benzoate, Miscible-H. W. and D.—A solution of benzyl benzoate-H. W. and D. in 78 gm. ethyl alcohol emulsified with 2 gm. castile soap. It has the actions and uses of benzyl benzoate. Hynson, Westcott and Dunning, Baltimore, Md.

Diethylbarbituric Acid-Merck.—A brand of barbital complying with the N. N. R. standards. The actions, uses and dosage of barbital (first introduced as veronal) are described in New and Nonofficial Remedies. Merck and Co., New York.

Diethylbarbituric Acid-Merck, 5 Grains.—Each tablet contains 5 grains of diethylbarbituric acid-Merck. Merck and Co., New York.

Sodium Diethylbarbituric Acid-Merck.—A brand of barbital sodium complying with the N. N. R. standards. The actions, uses and dosage of barbital sodium are described in New and Nonofficial Remedies. Merck and Co., New York.

Sodium Diethylbarbituric Acid-Merck Tablets, 5 Grains.—Each tablet contains 5 grains of sodium diethylbarbituric acid-Merck. Merck and Co., New York (*Jour. A. M. A.*, Dec. 28, 1918, p. 2153).

PROPAGANDA FOR REFORM

Leonard Ear Oil.—This is an alleged cure for deafness, sold by A. O. Leonard, New York City. Formerly it was sold on the mail-order plan as an accessory to Leonard's Invisible and Antiseptic Ear Drums. Now the "Ear Oil" is sold in drug stores. The Department of Health in the city of New York found it essentially to be liquid petrolatum with camphor, eucalyptol and alcohol emulsified by a soft soap, prosecuted Leonard, and prohibited the sale of the "Ear Oil" in New York City. The sale of the "Ear Oil" has also been prohibited in Cleveland (*Jour. A. M. A.*, Dec. 7, 1918, p. 1932).

Emetin Bismuth Iodid.—The Council on Pharmacy and Chemistry reports that because of the apparently good results obtained with it, emetin bismuth iodid has been accepted for New and Nonofficial Remedies. Emetin bismuth iodid is insoluble in water and dilute acids, but is decomposed by alkalis, and thus should pass the stomach unchanged but exert its action in the intestines. Those who have reported on the use of the drug in amebic dysentery report that the disappearance of ameba from stools was generally complete and apparently permanent even in chronic cases of carriers and in cases where the hypodermic administration of emetin has failed. Purging and vomiting, however, are not entirely avoided. The drug is usually given in a single dose of 3 grains at the midday meal for twelve days (*Jour. A. M. A.*, Dec. 14, 1918, p. 2013).

Fact and Opinion on the Influenza Epidemic.—At the recent meeting of the American Public Health Association the discussions relative to the etiology of the present epidemic resolved themselves into the belief that the bacillus of influenza is not the primary etiologic factor and that the actual cause is as yet unknown. In the argumentation for and against the face mask as a means of preventing the spreading of the disease, sight was lost of the fact that definite evidence has been presented to show that the wearing of a mask prevents the diffusion of pathogenic organisms of which we have definite knowledge. A paper was presented which indicated to the satisfaction of most listeners that a significant factor in the spread of the epidemic in army camps was the inadequate washing of mess kits (*Jour. A. M. A.*, Dec. 21, 1918, p. 2074).

The Goldwater Ordinance.—In 1914 the Department of Health of the City of New York revised the Sanitary Code so as to require that no "patent medicine" should be sold in the city of New York unless the names of the potent ingredients are declared. The ordinance was bitterly fought by the "patent medicine" interests, the fight being led by E. Fougera and Co., E. N. Crittenton Co., and H. Planten and Son. Now the Appellate Court of New York has decided that the ordinance is void, but has upheld the principle that a disclosure of the formula of medicines may be required. The underlying principle of the ordinance was the right on the part of the city to require disclosure of ingredients, and that right the Appellate Court upholds (*Jour. A. M. A.*, Dec. 21, 1918, p. 2093).

THE PENNSYLVANIA MEDICAL JOURNAL
Official Organ of the Medical Society of the State of Pennsylvania

VOLUME XXII
NUMBER 5
CHICAGO, ILL., AND ATHENS, PA., FEB., 1919
SUBSCRIPTION: $2.00 PER YEAR

ORIGINAL ARTICLES

THE "CHRONIC" TONSIL *

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SAYRE

Medical literature is flooded with a vast amount of material on all phases concerning the tonsil, but we are constantly learning more and more about the pathologic importance of this structure and when we consider that in the light of our present knowledge its scope of influence on the body becomes wider and wider we realize its importance more and more.

It is necessary that we study the tonsils still more thoroughly and that we fix some established facts absolutely and permanently in our minds so as to fully appreciate their present-day status. Regardless of the fact that no particular function has become definitely attached to the tonsils, the growing tendency toward their indiscriminate removal and more especially their partial removal is unfortunate, because it is unscientific, unsurgical, borders on the commercial and tends to bring into disfavor one of the most valuable operations which, when indicated and properly performed, yields beneficial and often brilliant results.

The far too common practice of hurriedly, superficially, and irresponsibly looking into patients' throats (often without even a tongue depressor) and giving advice is doubly unfortunate, since without thorough scrutiny of local manifestations and careful weighing of general clinical conditions by an internist many an opportunity is presented for offending tonsils to escape and unoffending ones to be sacrificed. The size of a tonsil should never influence our judgment in its favor and the oft-repeated remark, "my tonsils are not large," means less than nothing. On the one hand, the classical normal tonsil is seldom seen and, on the other, the fact that a tonsil is abnormal does not alone determine its destiny.

It is evident, then, that a great many possible additional factors enter into one's judgment as to whether a tonsil is or is not an offender. The relation the tonsil bears to local pathologic conditions is fairly well known, but its relation to general disease presents a field that is now more than ever thrown wide open, and instead of the tonsil being a supposed barrier to systemic infections it is a great harbinger of pathogenic as well as nonpathogenic organisms and is often a source of infection. It is absolutely impossible in most instances to obtain the true conception of the condition of a tonsil without investigating the crypts. This is done the easier if the patient is made to gag and will often enable one to discover one or more crypts with deep-seated disease that would otherwise have been overlooked. The most innocent looking tonsil will often be found to be a great offender, and will often explain some obscure local or general symptoms of disease. The crypts should be probed to their entire length and search made for deep-seated pockets and blind passages containing pus and retained offensive material.

It is often necessary to retract the anterior pillar in order to follow this out properly.

A frank history of local or tonsillar disease should be regarded as strong corroborating evidence, but its absence should never influence our judgment and allow us to neglect a thorough and searching examination of the tonsil.

When dealing with any condition in which the tonsil is known to be a possible factor it should be regarded as guilty until proven innocent. A Wassermann test should be done in all adults, regardless of history, and in children as well if there is the least cause for suspicion. If this is done one is more and more convinced that the tonsils show no characteristic clinical picture either in local disease or in the local manifestation of constitutional disease. The Wassermann must be regarded in its proper present status, especially the negative Wassermann, and a positive Wassermann will occasionally surprise us when least expected. We have undoubtedly innocently and unsuspectingly operated on tonsils in which the lesions were syphilitic, mildly or moderately so.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

Probably no harm was done other than possibly destroying a present evidence of constitutional disease and delaying its discovery and treatment for some future and less fortunate time. Slight tonsillar disease may be the one and only evidence by which lues exhibits its lesion openly at any one time, or number of times during its course.

With a negative history (negative Wassermann and admission or complaint of recurring sore throat over a period of years notwithstanding) when any ground for susupicion exists, both the therapeutic test and the provocative Wassermann should be employed. Either one of these may clear up a doubtful diagnosis. The general history of every patient should be carefully obtained and a thorough general examination, especially of the lungs, heart and kidneys, made before advice is fully given.

Some of the local conditions for which the tonsil may be to blame are recurring sore throat, sense of foreign body, sense of fulness, obstruction to swallowing or breathing, sense of constriction or spasm, hoarseness and cough, voice tire, thickness of speech, bad breath, bad taste in mouth, great amount of mucus with hawking, spitting and nausea, stiffness and tenderness of neck muscles, earache, reflex, acute and chronic catarrhal and infectious conditions of the eustachian tube, middle ear and mastoid, nasal accessory sinus infections, infections of the mouth and teeth.

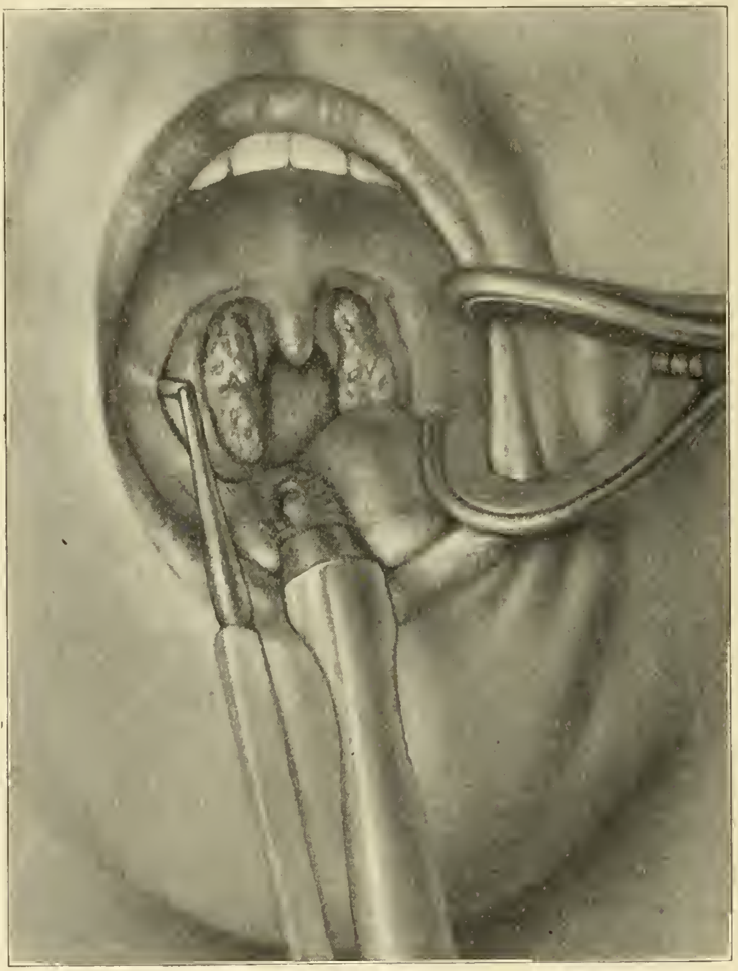

Fig. 1.

The general conditions resulting either from remote infections or as a consequence of toxemia (chronic septic absorption) which may be attributable to diseased tonsils as the focus of infection are: all phases of so-called "rheumatism," including neuritis, cervical adenitis, tuberculous cervical adenitis, abscess of the neck, tuberculous abscess of the neck, any tuberculous focus or disease, asthma, especially in children; ocular inflammations, especially those involving the uveal tract; acute and chronic neuritis of the eighth nerve, enlargement of the thyroid gland, disorders of gastro-intestinal digestion, duodenal and gastric ulcer, chorea, valvular heart disease, anemia (secondary), acute and chronic nephritis, pyelitis, inflammation and catarrhal conditions of the gall ducts, impairment of general growth and development. There is no doubt that the tonsil is the portal of entrance of some of our acute infectious diseases as well as the carrier and agent of dissemination. We know that diphtheria is sometimes spread in this way, as cases complaining of chronic sore throat for weeks and months have shown pure cultures of Klebs-Löffler from the crypts. Billings and Rosenow in their development of the subject of focal infection place the tonsil among the most important agencies for the entrance of chronic infection. McCarty has found 8 per cent. of all tonsils tuberculous, some authorities report 10 per cent.

There is no local treatment for the chronic tonsil worthy of trial. This holds true regardless of the various methods and procedures that have been and unfortunately are still being advocated, but far less so than formerly. This statement is made without equivocation and includes local lesions which are the result of constitutional disease as these are treated systemically.

Complete removal, except when contraindicated for constitutional reasons, is the procedure without choice regardless of the age of the

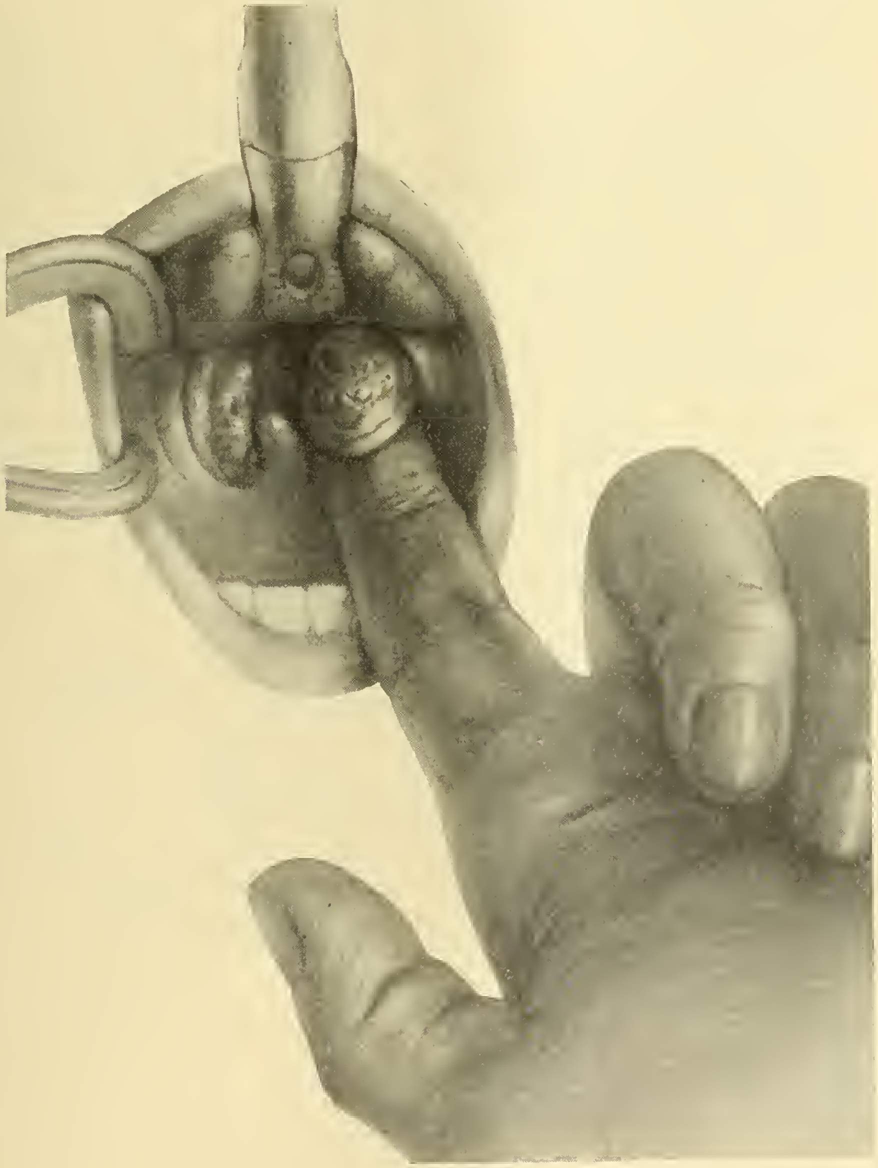

Fig. 2.

patient. According to Beck these contraindications are as follows:

1. Acute inflammations or infections.
2. Luetic—particularly ulcerative processes.
3. Advanced tuberculosis.
4. Advanced cardiovascular changes — that is, in individuals who would be endangered by any sort of surgical procedures, and in all constitutional diseases where the anemia is very marked; for instance, leukemia, pernicious anemia, etc.
5. Advanced cases of diabetes mellitus.
6. Low coagulating power of blood as in true hemophilia, cholemias, etc.
7. Blood pressure over 225 systolic.
8. Infants under 1 year of age.
9. Grave mental disturbances in which marked excitation is present as in Grave's disease, chorea, etc.

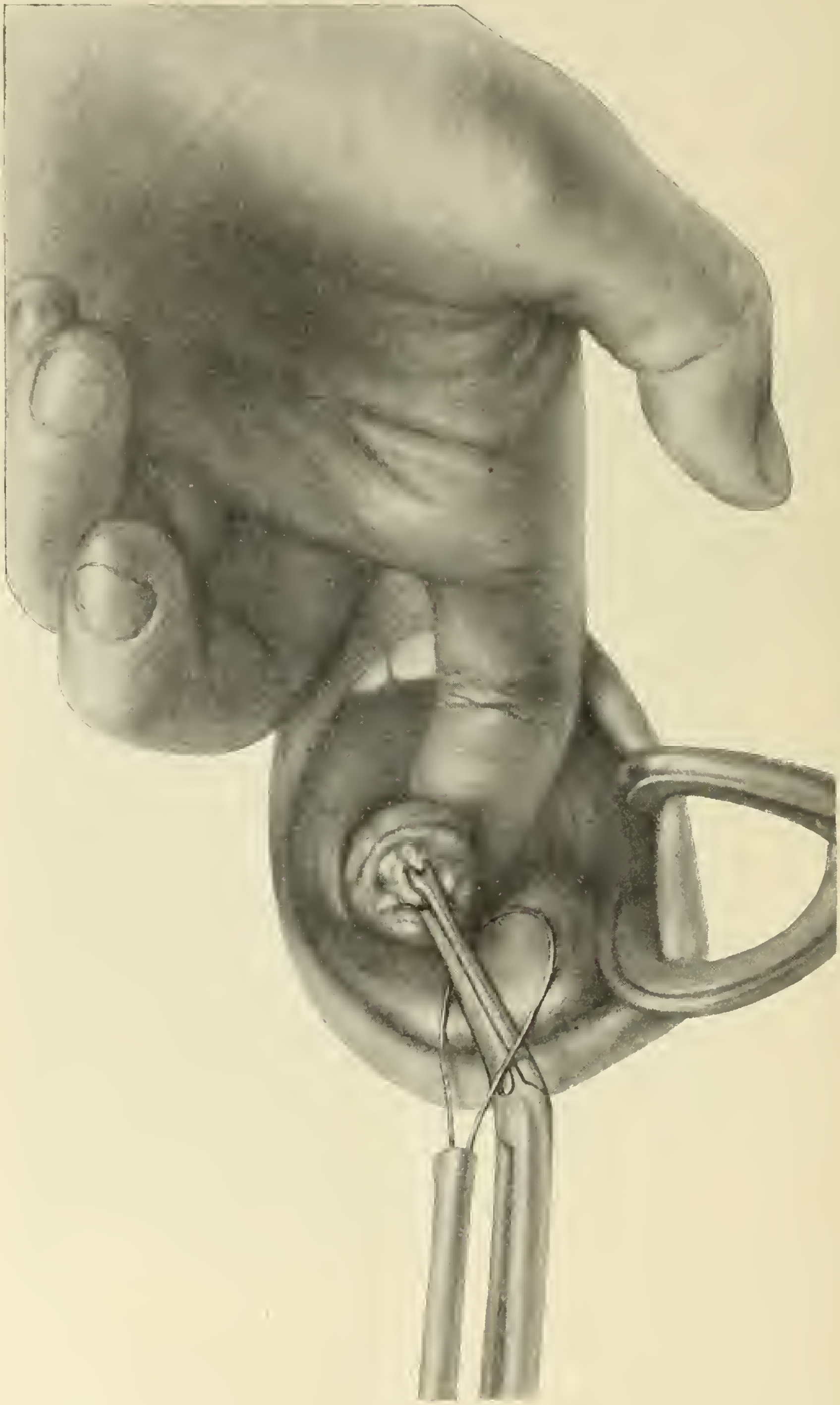

Fig. 3.

10. Any one that has never had sore throat and is in perfect health as shown by physical and laboratory examination.

Tonsillectomy has come to stay. It is the only operation that will survive the test of time and will effectually allay the well-earned criticisms of surgery of the tonsil which often follow the discouraging results or lack of benefit of partial removal (tonsillotomy) and the electrocautery.

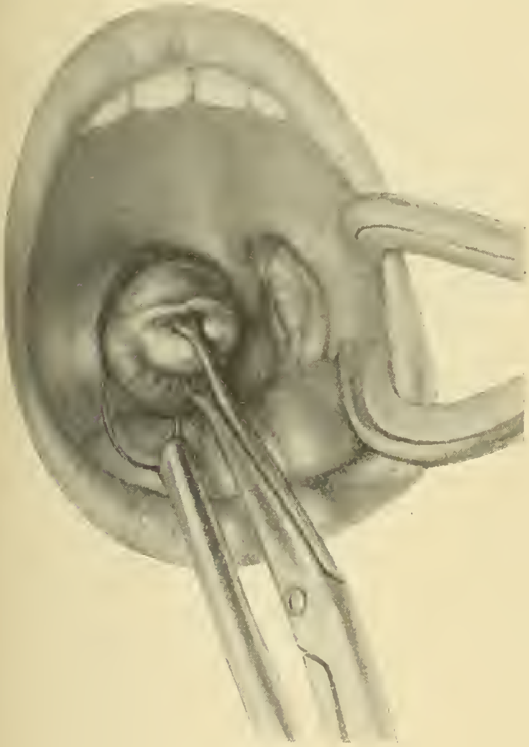

Fig. 4.

Tonsillectomy should be regarded as one of the major operations—performed only in a hospital or the patient's home, and should be done with due regard for the general welfare of the patient as well as the future local condition of the structures about the tonsil. A properly performed tonsillectomy does not disturb the integrity nor the function of the pillars or soft palate, and instead is often beneficial in this regard when such function or integrity has been hampered by repeated and chronic inflammation and adhesions. It is not possible in every case to leave a cosmetically perfect throat, and yet any gross damage to the structures is unnecessary and the result of poor technic, carelessness and undue haste. Damage to surrounding structures cannot be used as an argument against tonsillectomy any more than the divers theories and groundless fears of supposed remote after-effects, while the vast varied and oft-experienced beneficial results are well-nigh inestimable and incomputable.

Of the various methods of anesthesia and technic in performing tonsillectomy one must choose and develop that which by experience seems best suited, to observe the following points, namely, the shortest time compatible with the least shock and a clean, neat operation. For children the anesthetic of choice is ether, the administration of which is highly important and belongs to the field of the trained and expert anesthetist. When properly administered the operator is not hampered by gagging and coughing. There is far less blood in the field of operation (thus allowing rapid work), the least traumatism to the throat and a clean removal of the tonsils. Because of the abolition of the swallowing and coughing reflex it is important that the patient be placed in a position so that blood and infectious cryptic dèbris and pus cannot be inhaled. The light on the field of operation should be good.

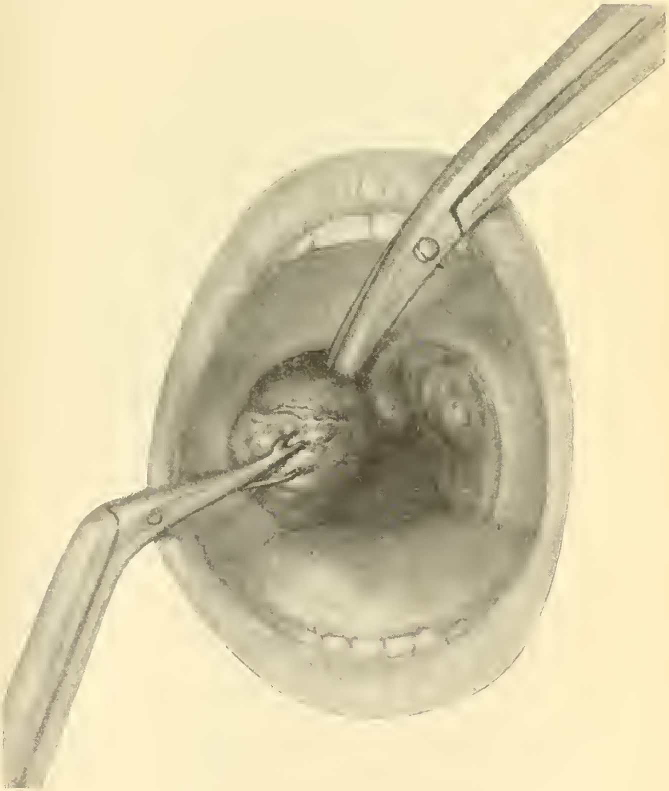

Fig. 5.

Leland knives (Eve's modification), right and left in succession, are passed through the mucous membrane as it reflects from the posterior surface of the anterior pillar to the tonsils at the base of the tongue. The incisions are carried upward, hugging the tonsils, and the point of each knife emerges from the triangular fossa opposite the base of the uvula (Fig. 1). Both tonsils are shelled from the fossa with the index finger of the left hand down to their base of attachment, the only structures still intact with the tonsils being the posterior pillars (Fig. 2). The right tonsil is now grasped with a tenaculum passed through the loop of an Eve's snare and pulled forward. The posterior pillar is shelled free, care being taken not to injure or tear it (Fig. 3). The loop of the snare is passed about the tonsil in such a manner as to include the entire lower pole and the attachment is severed (Fig. 4). The left tonsil follows in the same manner. In this way the operator is the least hampered by blood.

The patient should not leave the operating room until all bleeding has stopped and should be carefully watched for oozing after returning to bed, particularly during the first twelve hours.

For adults local anesthesia is preferred and advised, excepting in neurotics. The dissection is done as shown in Illustration 5, with the scissors, the snare being used to sever the attachment at the base the same as under general anesthesia. The pillars and structures about and beneath the tonsil are freely injected (Fig. 6) with 1 per cent. novocain solution containing 3 minims of adrenalin chlorid (1:1,000) to the dram. The injections are extracapsular and it is important to allow five minutes to elapse in order for the anesthetic to infiltrate the tissues and produce the desired anesthesia. Although mindful of the fact that cocain, about $\frac{1}{10}$ per cent. solution, is more anesthetic to the mucous membrane, we prefer novocain because of its comparative freedom from toxic effects. A few unfortunate catastrophies have been reported following the use of novocain. These would bear closer analysis to determine the real cause of accident.

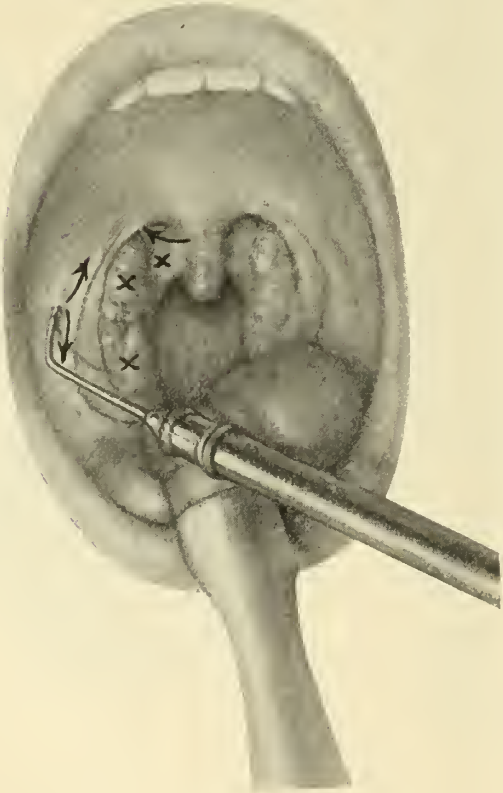

Fig. 6.

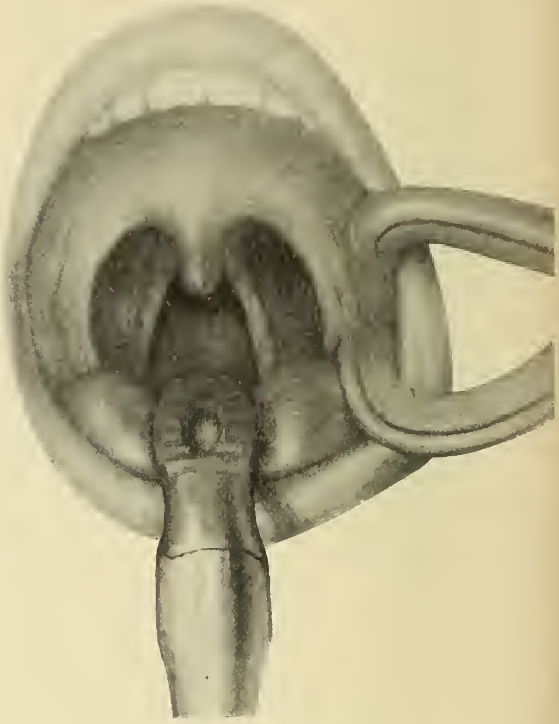

Fig. 7.—Showing end results of operation.

TONSILLECTOMY UNDER LOCAL ANESTHESIA *

GEORGE B. JOBSON, M.D.

FRANKLIN

After an experience of 325 cases of tonsillectomy operated on under local anesthesia (or, more properly, analgesia), I am convinced that it is the method of choice in most adult cases, and a great many selective cases in children over twelve years of age.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

The ages in the cases recorded ranged from eight to fifty-five years. The loss of blood was almost nil, the largest amount being not over 2 ounces while, in the majority of cases, the operation was practically bloodless. In only one case was there delayed hemorrhage, which was brought about by forcible clearing of the throat an hour after the operation. In this case, the hemorrhage, which came from the venous plexus at the base of the tongue, was readily controlled by compressing with gauze, impregnated with glycerite of tannin. In no case was there secondary hemorrhage. In 75 per cent. of the cases, the operation was painless; the remainder of the patients complained of slight pain during the momentary compression of the snare wire.

The "after pain" was no more severe than that which follows a tonsillectomy under a general anesthetic; and convalescence was shorter than when a general anesthetic is used, as the shock consequent on the latter was absent.

The technic of the operation does not differ very materially from that followed by many operators, except in the method of injecting the anesthetic solution. The manner of injecting the solution is one of the principal factors in a bloodless and painless tonsil enucleation.

In preparation for the operation, a sufficiently thorough general examination should be made to assure knowledge of the functioning power of the heart, lungs, and kidneys; and to note the coagulating power of the blood. If coagulation time of the blood (seven and one-half minutes) be above normal, calcium lactate is administered in 15 grain doses three times a day for three days before the operation. Hemophilia should be ruled out, as far as possible, by the history. It is better not to remove the tonsils of women and young girls when menstruating, as they are more liable to bleed at that time. A tonsil that is acutely inflamed should not be operated on, or when there is any sore throat.

Half an hour before the operation a hypodermic of $\frac{1}{6}$ grain of morphin and $\frac{1}{150}$ grain of atropin is given. The atropin diminishes the amount of secretion in the throat and counteracts the effect of the cocain, which is used in swabbing the throat.

The tonsils, pharynx, soft palate, and base of the tongue are painted with an 8 per cent. cocain solution, at intervals of two or three minutes, for three or four applications.

The tongue is depressed with a Pynchon depressor in the hand of an assistant, care being taken that the base of the tongue on the side to be operated on is pressed downward and forward, by tilting the end of the depressor blade downward, and slightly toward the tonsil to be removed.

The tonsil is grasped very firmly at its upper and lower poles by forceps which will not loosen or tear out. For this purpose I have devised a modification of Tyding's forceps with saw-shaped teeth, set at an obtuse angle. These teeth are forced deeply into the tonsil, and engage the fibrous trabecula, thus giving a firm hold. The forceps have a strong locking device. Then, after being grasped securely, the tonsil is drawn firmly toward the median line, so as to raise the gland from its bed (fossa tonsillaris) and to render the faucial pillars taut. The space between tonsil and superior constrictor muscle, which is made by tension on the tonsil, is flooded with from 1½ to 2 drams of a 1 per cent. procain (novocain) solution or one of its substitutes, to which is added a few drops of 1 : 1,000 adrenalin solution.

Caution should be used in the administration of such a potent remedy as adrenalin, for I am inclined to believe that some of the harmful results attributed to cocain or its substitutes may be due to the action of adrenalin, when used in combination. The idea in flooding the tonsillar fossa is to force the superior constrictor muscle away from the tonsil; and with it the tonsillar, ascending and descending palatine arteries, which course along the outside of the muscle, before they supply numerous small twigs to the outside of the gland.

This hydraulic dissection, not only lessens the danger of cutting large vessels, but many branches of nerves entering the tonsil are reached more effectually than by injecting at certain points. Again, the small arterial tonsillar branches, which pierce the superior constrictor, are blocked off by the adrenalin.

The technic of injection is to insert a long needle of a Pynchon or other syringe through the base of the taut anterior faucial pillar until the space behind the tonsil is encountered, when a portion of the solution is injected. The needle is withdrawn, and the operation is repeated at three points from the upper to the lower ends of the anterior pillar. A few drops of solution should also be injected into the peritonsillar fossa at different points, to enhance anesthesia by blocking the nerve plexus known as the circulus tonsillaris. About ten minutes should be allowed for the action of the anesthetic, when the tonsil is grasped, as before, and drawn firmly toward the median line. The taut anterior pillar, with the plica triangularis bridging it to the tonsil, may be outlined. The plica is carefully separated by nicking it at the upper third of the tonsil with a Day angular tonsil knife, and with the flat surface hugging the tonsil, and cutting edge forward, the incision is prolonged into the anterior tonsillar fossa, and continued downward in this fossa to the inferior tonsil pole. The knife is reversed and the plica separated from the original incision to the posterior part of the supratonsillar fossa. Care should be taken not to cut into the anterior pillar or the tonsil. This is not difficult, if the tonsil is kept on the stretch when the knife is being used.

Cutting the anterior pillar would endanger the dorsalis lingual artery, and mutilation of the gland makes it difficult to do an intracapsular operation. If further separation of the tonsil is desired, a dull dissector or back of the knife may be used after separation of the plica. On no account should separation of the posterior pillar (which contains a branch of the ascending pharyngeal artery and a large vein) with a knife or dissector be attempted, as the snare will peal the tonsil from the posterior pillar without danger to its vessels better than by dissection.

The tonsil having been freed from its supratonsillar and anterior pillar connections, a number eight snare wire is slipped over the locked forceps and pulled down to a size that the tonsil will about fill. This loop is insinuated back of the tonsil, with cannula at the anterior and upper third of the gland, and with quick presure the tonsil is enucleated, and drops out in the grasp of the locked forceps. The fossa tonsillaris is swabbed with glycerite of tannin to further seal the vessel mouths. The patient is returned to his room, propped up in bed at an angle of 45 degrees and given pellets of ice to dissolve in the mouth for the relief of the after pain.

DISCUSSION

ON PAPERS OF DRS. WEINBERGER AND JOBSON

Dr. Curtis Clyde Eves, Philadelphia: I will discuss only Dr. Weinberger's paper. The man who thinks his knowledge of the tonsil is a closed book is surely going to get into trouble, because there are constantly new points being brought forward about the chronic tonsil. One has his own idea about taking a tonsil out, but we do not know how to diagnose a chronic tonsil as yet. I believe it is impossible to tell whether a tonsil is the cause of certain infection being absorbed into the body, or whether the tonsil is entirely free from infection, in every case. However, there are a great many points on which we can partially diagnose, sometimes definitely, the infecting tonsil. One of these points is a peculiar livid color along the anterior pillar, the most excellent way is pressure on the tonsil through the anterior pillar, which squeezes out the infectious material from the tonsil; yet this will not, in every case, show up the infection in the bottom of the crypts.

Another method of great value is compressed air blown through a very fine catheter into these crypts. Suction is used with a great deal of benefit. Usually, however, the opening of the crypts will collapse before we can suck all of the material out.

As to transillumination of the tonsil, few men I know of have become expert with it enough to be able to say whether it is of any great advantage. Dr. French has a small light with which he looks through the tonsil and judges the condition by the color of the gland.

Dr. Green has recently written a paper on the local infections in the head and throat, in which he said he found mostly the streptococcus hemolyticus coming from the tonsil at fault. He tried to find the infecting organism most frequently absorbed from the tonsil, sinuses, and roots of the teeth.

There are so many things around the throat and the head and also in the intestines, gallbladder and appendix which cause these obscure infections that it behooves us to be very careful in selecting the tonsil as the cause of infection. (I think we have all, at least I have, taken out tonsils which I was sure were the cause of infection, yet in a year or two the patient was still having the same symptoms.) In the obscure cases we should use the roentgen ray on the sinuses; in the middle ear, make a thorough examination, also call into consultation a competent dentist and internist, before condemning the tonsil as a source of septic absorption.

As laryngologists we will keep our reputation in better grace if we are a little more careful in the number of tonsils we take out.

Capt. Richard E. Brenneman, Pittsburgh: Although a general surgeon, I have always been interested in surgery of the throat, largely from personal reasons. While on this subject I would say I have seen general surgeons operate on throats that made me feel as though they should be prohibited by law from doing work on the tonsils. However, if the general surgeon by his practice has shown that he is able to do surgery of the tonsil or throat, he should be permitted to do it without any criticism on the part of those who are devoting their entire time to this specialty.

There is only one exception I would take to Dr. Weinberger's paper. He mentions chorea as a contraindication. I think this disease is a distinct indication for tonsillectomy. As to hemorrhage there is one thing to emphasize and that is, in people under 45 years of age, determine the time it takes for the blood to coagulate. After 45 years of age, the danger of bleeding is practically nil.

At the Walter Reed General Hospital, many operations are being done under local anesthesia, especially herniotomies. Appendectomies and mastoid operations have also been done under local; why not tonsillectomies, excepting, of course, in patients under 12 years of age?

This leads up to the paper of Dr. Jobson that I am to discuss. If cocain or procain of sufficient strength is painted on the throat properly and injected around the pillars, there should be practically no pain or hemorrhage. As I understand Dr. Jobson's technic, he uses scissors for dissecting and pulls out the tonsil from its bed while operating. While this undoubtedly gets the tonsil out cleanly, I have abanadoned it in favor of one I shall go over briefly, mainly for the reason that any pulling on the fauces tends to traumatize the faucial tissues and causes unnecessary pain in the healing process. The painting of the fossæ which he practices is a distinct advantage.

Matthews' technic is the one I follow. He has handled the work at the Mayo Clinic until recently. The patient is put through a complete examination, just as for any surgical case, to determine the necessity for the operation and to discover any other sources of infection. To operate, the patient is placed in a sitting position and instructed to keep breathing regularly. The tongue is depressed and a 10 per cent. cocain solution applied to the pillars and pharynx. In ten minutes more the application is repeated. After ten minutes more have elapsed one dram of a 0.1 per cent. cocain solution, in which 2½ drops of adrenalin are placed, is injected. Procain solution 0.25 per cent. may be used, but I prefer to use the former. This is injected with the special Matthews syringe at five different points around the capsule. Gagging is obviated by having the patient breathe forcibly. By the time the second tonsil is anesthetized we are ready to proceed. I am accustomed to taking out the patient's left tonsil first. With a nurse supporting the head, the tongue is depressed and the face of the patient turned a little to the left. A curved knife is inserted behind the anterior pillar just at its lingual attachment. If you are successful in getting in the right place you will have no trouble in inserting the knife to the proper depth, making a bold sweep upward, then backward and down in front of the posterior pillar. There may be one or two adhesions which can be clipped with Princes' scissors. The upper pole, now freed, is grasped with a tonsil forceps, held firmly and the pharyngeal wall pushed away with the Richardson knife which is turned in the opposite direction from the way it was first used. This strips the tonsil down to the lower pole cleanly, and frees the upper part of the lymphoid tissue. A snare is then thrown over the pedicle and the tonsil is freed along with the lymphoid tissue below the tonsil.

The time of this operation may range from one-half to five minutes. Before you decide the operation is finished, be sure that all the lymphoid tissue at the bottom is removed. This is important. Trouble will often occur from reinfection if you do not get this out. After this, the fauces are painted with a 5 per cent. tincture of iodin. In a series of 2,000 cases treated this way, Matthews saw only two cases of bleeding. This should be a sufficient answer to those who are fearful of hemorrhage. My own experience shows 1.5 per cent. of hemorrhage of any consequence. However, the patient had best be under fairly close observation for at least twenty-four hours after the operation. The same technic may be used with the patient under general anesthesia, except, of course, the patient is in the recumbent position. Suction is of value in keeping the pharynx clear of saliva and blood. Suture has never been necessary except in one of my cases where the tonsils were unusually large and pedunculated and the patient a hemophiliac.

Dr. G. R. S. Corson, Pottsville: The Mayo Clinics teach, I believe, that there are four sizes of tonsils; No. 1 is the smallest and No. 4 is the largest. No. 2 is the one giving the most trouble and the most difficult to remove. That has been my teaching for years. As to hemorrhage, I am sorry Dr. Grayson did not read his paper covering that phase of the subject. During the past three years I have been doing Dr. Davis' method almost entirely. During that time I have done about 1,200 tonsillectomies and have only been called once to see a case of post-operative hemorrhage. It leaves the pillars perfectly clean and normal.

I have done very few operations under local anesthesia in the last few years. I believe I can do a better job and control the patient better by having him in the hospital with a good anesthetist. By removing the tonsil with the snare slowly it pulls out the blood vessel mentioned by Dr. Davis, perhaps as much as one-sixteenth of an inch and it is very easy to go in and tie that vessel off. I do that in cases where there have been repeated attacks of tonsillitis or quinsy, and there is likely to be greater vascularity.

Dr. William A. Hitschler, Philadelphia: We like to report our successes but not our failures. Chorea as a manifestation of tonsil disease is too well known to need mention. Dr. McKee of this city says 75 per cent. of his cases of chorea have been relieved by adenotonsillectomy. A colleague of ours, Dr. Wood, spoke to me about a case he had within the last year or two. There was nothing the matter with the child, but the family physician advised the removal of the tonsils on general principles. The tonsils were removed, and about a month afterward the child developed chorea. Therefore it is well to keep in mind that the reverse of the usual may occasionally take place. I agree with Dr. Eves that in obscure cases we cannot say positively that tonsils are causing the infection. We all know of cases where removal of tonsils does not improve the existing conditions. It is wiser not to make too positive a promise.

Dr. John F. Culp, Harrisburg: I agree with Dr. Eves that it is not possible in the present state of our knowledge to say when a chronically diseased tonsil should be removed. In my own personal experience I have probably erred on the wrong side and have not operated as frequently as I should have done in these conditions. I remember very recently operaing on a young lady with bad tonsils and in bad health. It seemed to me it was an ideal case of tonsil operation and I expected most flattering results, but her health is still as bad as ever. However, we have all had brilliant results following the removal of diseased tonsils. Dr. Prentice's method of transillumination seems to offer brilliant possibilities, but I think very few of us have been able to get the same results and operate with the same degree of confidence that he does. With regard to the local method of removing tonsils, I was quite interested in hearing Captain Brenneman speak of his experience in this matter. The five or six months that I was located at a southern camp in charge of the department of oto-laryngology we did an immense amount of tonsil work under local anesthesia in the manner he speaks of. Our method of operating was essentially the same.

I can hardly agree with Dr. Jobson when he says the operation under local anesthesia is painless. I have never yet done an operation myself that I considered absolutely painless and I believe that if I were to have an operation of this kind done, and I was sure I had a good anesthetist, I would rather take my chances under general anesthesia. In regard to our Army work, it seems that surgeons in the Army are now called on to do a great deal of work that should have been done on these young men years ago. It seemed to me last winter while in Army service that the military authorities had gone through this great commonwealth of Pennsylvania and picked out every man with a crooked nose and diseased tonsils and put him in the Army. Where you have so many operations of this kind to do, local anesthesia is to be preferred, but when you have all the ideal conditions for general anesthesia and are going to consider the feelings of your patient, that is the operation of choice.

Dr. William Hardin Sears, Huntingdon: Dr. Jobson's report of 325 cases demonstrates unquestionably that, in his own practice, this is the method of choice in children over 12 years of age. A record of this number of operations with a showing of 75 per cent. with no pain whatever and 25 per cent. with so little pain as not to annoy the patient, is so unusual as to be well worth presenting.

I have done a great many tonsillectomies under local anesthesia, but for a year or more have done very few for the reason that I was not able to induce a satisfactory anesthesia, by the preliminary injection of procain or any of the suggested substitutes for cocain.

Dr. Jobson's technic, if it can be used as successfully by others, will do much toward simplifying an operation, which in a very large class of selected cases is much to be preferred.

Dr. Weinberger, closing: As to the contra-indications I think we all know that tonsillitis and chorea bear a distinct relation and I do not mean to say that chorea contra-indicates an operation, nor does Dr. Beck, I am sure. During the active symptoms of chorea do not operate. I agree with Dr. Eves about not being able to tell when a chronic tonsil is or is not an offender. I also advise a general thorough examination. In the majority of cases you have a grateful patient. In quite a few you will not have a grateful patient unless you have thoroughly examined your patient with the assistance of an internist and will exclude other means and other causes. You can then say to your patient, "I do not know whether your tonsils are the cause but I would advise removal and see." As regards evulsion and snare without dissection, if one examines the throat a year or two after operation you will often find that the pillars have grown together and the structures somewhat misshapen from cicatrization and contraction consequent to the undue traumatism. Either pillar, more often the posterior, will often be caught in the snare and lost. This procedure is also more painful than dissection.

Dr. Jobson, closing: Criticism against traction on the tonsil on account of the supposition that it generates pain is unfounded, when complete surface anesthesia is produced; a fact which has been ascertained by interviewing the patients.

In order to place the procain solution between the tonsil and superior constrictor muscle, and into the peritonsillar fossa, it is necessary to draw the tonsil toward the median line of the oropharynx. This procedure also facilitates separation of the gland from its anterior pillar and supratonsillar connections.

Most operators endeavor to produce anesthesia of the tonsil by injecting at several points, with the idea of "blocking" the nerve trunks. This is impossible, as the middle and posterior branches of the sphenopalatine, joining with branches of the glossopharyngeal nerve, form a circular nerve plexus which supplies a profusion of filaments to the anterior, posterior and external surfaces of the tonsil. These branches can only be reached by flooding the sinus tonsillaris and peritonsillar fossa with the anesthetic solution.

Goiter was spoken of as a contraindication in a tonsil operation. My opinion is that diseased tonsils should be removed in selected cases of exophthalmic goiter. This statement is based on the recovery from exophthalmic goiter of a 16 year old girl, after removal of a pair of diseased tonsils.

BONE REGENERATION FOLLOWING OSTEOMYELITIS *

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Aside from the experimental work which has been done by Albee, Gallie, Meisenbach and others, in connection with the conduct of bone cells under various conditions and stimulations, which had for its main object the conduct of these cells in the growth of new bone associated with bone grafts, always healthy transplants from other bones in the same individual or bone slides from the same bone, there has been little written on the subject of bone regeneration associated with infected bones. As has been the custom for many years, when dead bone was found it was removed. This we now find was a great error for after the removal of dead bone it is not possible for regeneration. Regeneration comes from the osteoblasts themselves, even those osteoblasts from dead bone, and that in the midst of suppurating areas. Periosteum has always been given the credit for the regeneration of bone. We now know that the periosteum is an investment membrane of the bone, furnishing it with nutrition and protection, and serves in the same way as the skin serves the various parts of the body. Up to the time of Macewen's book on "Bone Growth" it appeared that no one had ever mentioned in medical literature this now acepted osteogenetic law.

Regeneration of any pathologic tissue of the body, as muscle, nerve, connective tissue or epithelial tissue, can only be generated by that variety of cell characteristic of this particular tissue. This is as absolutely law as that of regeneration of specie. The law applies then to bone, and must be observed if the operating surgeon may hope for new bone growth.

The use of the roentgen ray in the study of bone diseases has brought to the surgeon a means of making a diagnosis which previous to its discovery was not possible. It has revolu-

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

Fig. 1 (Case 1).

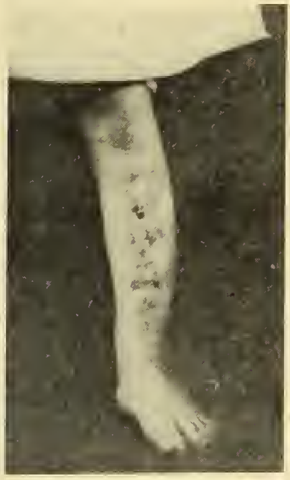

Fig. 2 (Case 2).

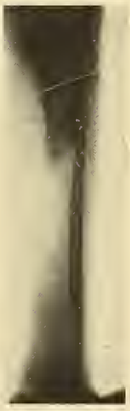

Fig. 3 (Case 3).

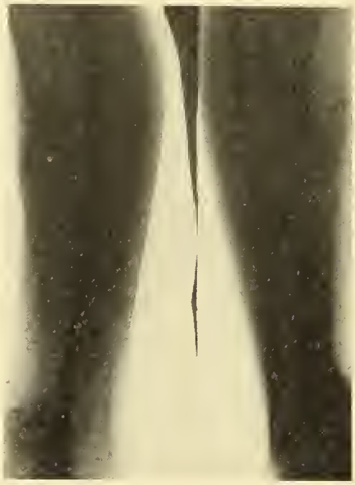

Fig. 4 (Case 3).

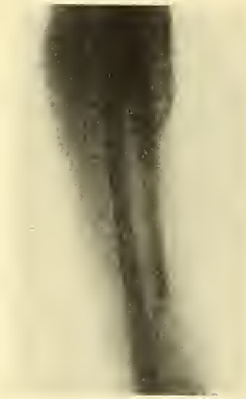

Fig. 5 (Case 3).

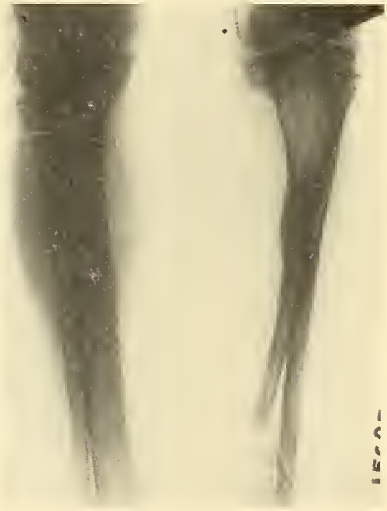

Fig. 6 (Case 3).

tionized the practice of bone surgery. It is now possible for us to look at a roentgen ray and determine the distinctive variety of bacterium producing the bone change. In other bone changes which are not of bacterial origin, equally accurate findings may be had by this method. When bones have been subjected to injury, in which condition the periosteum becomes congested and detached from the bone, bone growth is stimulated, and bone spurs, exostoses and splints (so-called) are formed, principally in the group of conditions known as myositis ossificans.

Blood clot is essential to repair of all tissues. It is typified in repair of the maxillary processes after the extraction of teeth. It is also typified in all abdominal and other operations where small quantities of blood will be found along the line of the sutures. It is nature's method of filling in cavities which must necessarily exist after operations. The method of repair is, (1) blood clot; (2) leukocytes; (3) cells characteristic of the particular tissue to be repaired, finally resulting in scar tissue. When packing is used it destroys the blood clot and interferes with normal repair.

The infective bone diseases include infections from streptococcic, staphylococcic, tubercular and other infective conditions.

Case 1.—Fig. 1 shows a general diffused osteomyelitis of the radius, the entire bone being destroyed, with the exception of the radial head, at the elbow joint. It will be observed that the bone is irregular and ragged and chopped up, with areas of varying density, but it is not enlarged, showing early osteomyelitis of an acute form.

Case 2.—Fig. 2 shows a leg after complete regeneration of the tibia, the bone having been removed in sequestra. This boy fell and fractured the tibia because he walked on it earlier than it should have been used. Further use of a splint resulted in complete and firm regeneration of the bone.

Case 3.—Fig. 3 shows a leg from which the tibia was removed for osteomyelitis. This picture was taken two months after the operation, showing no regeneration of bone.

Fig. 4 shows the same case six months later. There has been an effort on the part of the lower end of the upper bone to push off new bone downward, and a slight effort from below. There is, however, no attempt at regeneration along the remaining portion of the periosteum. Since I did this operation myself I know how thoroughly firm the periosteum was at the time of the operation, remaining intact throughout, except at the point of incision. The original operation was done before the appearance of Macewen's book. When bone grafting was introduced, this operation was performed by taking a graft from the tibia of the other leg.

Since the space occupied by the tibia previous to the removal of the sequestrum was entirely obliterated by scar tissue, it was out of the question to attempt to locate the layers of the periosteum for the purpose of interposing the graft between them. The best that could be done was to make the incision directly downward from the ends of the bones, as shown in Fig. 4. The sharp ends were removed and bare bone of the lower end of the tibia was approximated to the upper end of the graft. The same procedure was carried out at the lower end.

Fig. 5 shows the condition about six months after the grafting. It will be observed that the graft has intimately fused with the lower end of the upper fragment of the tibia and that it is projecting itself downward well toward the ankle.

Fig. 6 was made from a roentgen ray picture which shows thorough regeneration of the new bone. Unfortunately, however, the lower end of the regenerated bone falls short of the lower end of the tibia. This boy has for several years now refused to permit another operation. I am sure that when he does consent to this operation he will have thorough regeneration of the bone throughout its entire length. It may, however, bridge over without an operation, which is our hope at this time. The graft has entirely disappeared, as shown in this picture.

Fig. 7 shows a photograph of the preceding case taken a few months after the grafting, the wound having entirely repaired.

Case 4.—Figs. 8, 9, 10 and 11 show a case of acute osteomyelitis in which the operating surgeon "removed the dead bone," as I did several years before in a similar case, disregarding Macewen's law. Fig. 8 is a roentgen ray of the leg several months after operation. It shows there is an effort toward the regeneration of new bone downward from the lower end of the upper fragment. There is also a sequestrum in this same area, showing that all of the shaft which was dead was not removed at the first operation, and also accounting for the regeneration. Bone grafting was done by the removal of a piece of bone 8½ inches long by three-fourths of an inch square from the crest of the opposite tibia. Fig. 9 was taken several months after the operation. Here you will be able to see the beginning of bone formation. Fig. 10 shows the case a little farther along. Two distinct things have occurred: one is the formation of new bone, and the other is disintegration of the graft. Little evidence is shown of where the graft had been removed from the opposite tibia. Fig. 11 shows a later stage in the process of disintegration of the graft and regeneration of the new bone. The remarkable part of this particular slide is that it shows that new bone has been formed by what might be considered a melting away and running down of the bone cells toward the ankle, below the end of the graft for several inches. This young man used his leg too much and fractured the new bone about three months after the grafting. Recently he came into my office, walking without cane or crutches, and has taken a position as chauffeur, being able to handle a car and manipulate his clutch with this leg.

Case 5.—Fig. 12 shows three distinct roentgen ray pictures, the one on the right showing early osteomyelitis of the entire tibia. It was decided, since new bone must come from old bone, to leave the shaft even though it was dead and disintegrated. Consequently, this boy, aged 12, was given an anesthetic and the periosteum laid wide open from knee to ankle, exposing the dead shaft. This remained open

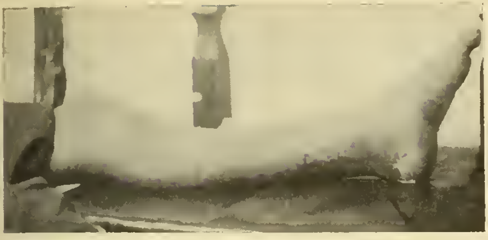

Fig. 7 (Case 3).

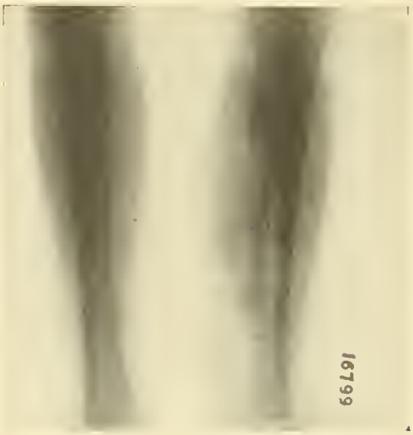

Fig. 10 (Case 4).

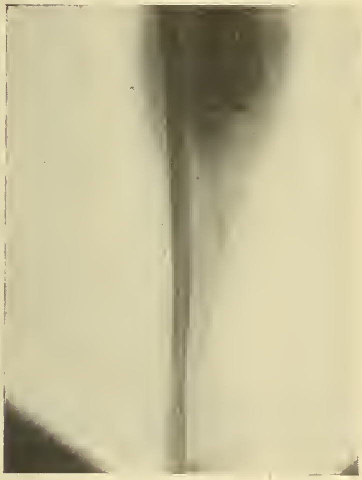

Fig. 8 (Case 4).

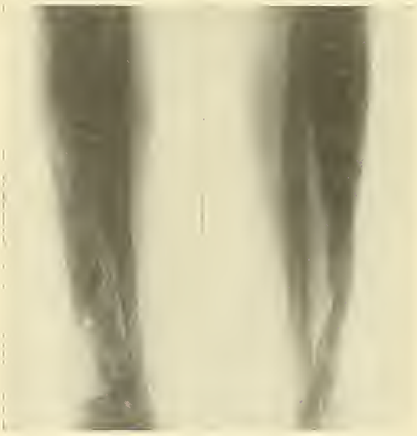

Fig. 11 (Case 4).

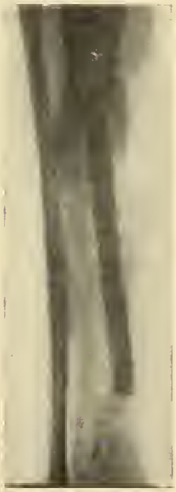

Fig. 9 (Case 4).

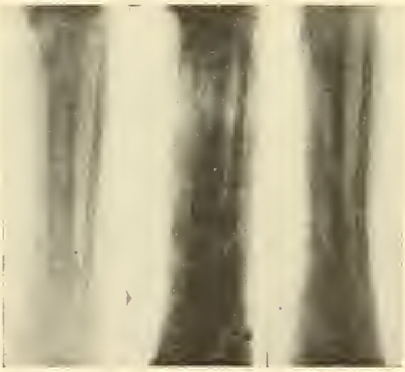

Fig. 12 (Case 5).

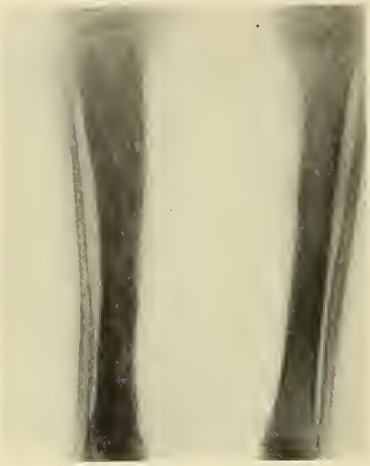

Fig. 13 (Case 5).

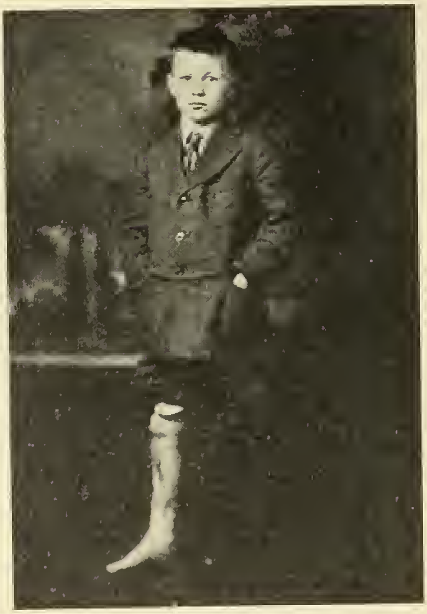

Fig. 14 (Case 5).

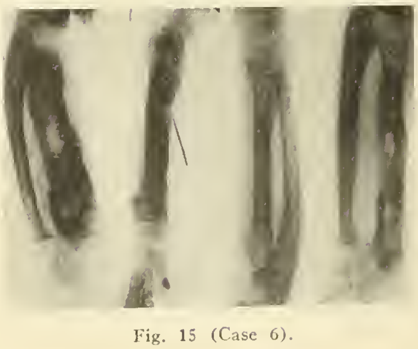

Fig. 15 (Case 6).

and was dressed with normal salt wet dressings for about four months, when the second picture was taken, and regeneration as shown was present. In two more months it was decided that sufficient regeneration had occurred to remove the sequestrum. A year later he came to my office and Fig. 13 was taken, which shows a completely regenerated tibia; in other words, a tibia made entirely new, reconstruction being practically from one end to the other, a larger, stronger tibia than the one on the other side.

The technic of the removal of a sequestrum and rearranging of the involucrum is very important. It consists in chiseling away sufficient of the involucrum where it is thinnest to remove the sequestrum, and then breaking down the involucrum in such a way as to push it down into the cavity left by the removal of the sequestrum, completely filling the space. The new bone fragments act as bone clips do elsewhere. Such a wound should be poured full of 3 per cent. tincture of iodin after removing the sequestrum and before breaking down the involucrum. The bone should, if possible, be reduced in size so as to permit the closure of the skin throughout. No packing should be used; it destroys blood clot organization and prevents repair. No wound is going to close until it is ready, and packing may prevent closure.

Fig. 14 is a photograph of this boy after repair and restoration to complete usefulness of the leg, able to perform every normal function.

Case 6.—Fig. 15 is a very interesting picture of a boy aged 3, who had discharging sinuses from the radius. In this case sufficient new bone having formed when the case came under my observation, as is my custom I cut down, split the soft tissues open, removed the sequestrum and removed sufficient of the involucrum to permit a closure of the wound throughout the entire length of the bone, after it had been disinfected by 3 per cent. tincture of iodin. The result in six months is shown in the other pictures. The radius shows regeneration and rearrangement of the architectural structure. The disease was hereditary and the child took syrup of the iodid of iron for many months.

As must be well known to all observing surgeons, no operation is performed without there being more or less blood clot interposed between the flaps and portions of the area included in the operation after adjustment of sutures. This blood clot is nature's method of filling in cavities and vacant spaces which must necessarily exist. To be sure, these cavities vary in size in different operations. They disappear and the wound entirely heals without the surgeon being cognizant of their existence in all sterile wounds. This is what surgeons choose to call "blood clot organization." The method of repair is about as follows: The blood clot which fills in the cavity serves as a trellis work into which the leukocytes begin to pour from the healthy blood vessels immediately after all operations and injuries. In the course of a few days, the blood clot has been entirely displaced by the scavenger leukocytes and the cells thrown out along the margin of the wound for the purpose of reconstruction and repair. The reparative cells eventually take the place of the leukocytes and become thoroughly organized, and the cavities are thus filled in with new formation.

CONCLUSIONS

1. Bone regeneration is from the osteoblasts only, and can not come from the periosteum or other tissue.

2. Sequestrum, though very loose, should never be removed until regeneration of new bone has advanced far enough to maintain the normal position and perform the normal function of destroyed bone.

3. Three and one-half per cent. tincture of iodin is the antiseptic *par excellence* in all cases of bone infection. It should only be used once a week.

4. Packing, as used by the average surgeon, namely, packing in and around bones that are dead, destroying the healthy granulations, also destroying the bone's normal function of producing new bone throughout its circumference, should not be used. I am not sure who introduced this pernicious practice, but I believe that it has done more harm to bone surgery than any other one thing that has happened in centuries.

5. The serum of repair is not pus, since it is not phagocytosis and does not require strong wet dressings, as practiced by so many surgeons as a routine. Normal salt is to be preferred when the patient is without temperature.

8103 Jenkins Arcade Building.

DISCUSSION

Dr. A. Bruce Gill, Philadelphia: Dr. McCurdy's lantern pictures well follow those shown by Dr. Wood. We have all seen somewhat similar conditions in osteomyelitis, conditions which have resulted in considerable bone destruction; but rarely do we see osteomyelitis in its early stage before serious damage has been done to the bony structure. We see them after from one to three weeks, when a large part of the bone is filled with pus, and, still later in the chronic stage after sinuses have been discharging for months or years, and when ununited pathologic fracture is present.

In the acute cases our custom is to open freely the medullary cavity at once and institute the rigid Carrel-Dakin treatment. This treatment is a tremendous advance over all older methods of treating osteomyelitis. Commonly, under the former methods of treatment, frequent operation was necessary to tap and drain pockets of pus. We have probably all seen in an arm or a leg six to ten or twelve scars due to incisions for osteomyelitis. And the wounds keep discharging pus often for many months. With the Carrel-Dakin treatment rarely more than the first operation is necessary to secure proper drainage. The pus does not burrow and extend up and down the arm or leg, the destructive process in the bone ceases, the sequestrum separates frequently in six to eight weeks, much earlier than under other forms of treatment. When the sequestrum is loosened it should be removed at a second operation and all remains of dead bone removed. Attempt to remove the sequestrum should not be made too early before it has loosened and before the involucrum has well formed. This latter is well illustrated in the remarkable case shown by Dr. Wood in which regeneration of the lower jaw occurred around the sequestrum. Had attempt been made to remove the sequestrum early, in the first place not all the dead bone could have been removed and in the second place the involucrum would not have formed to restore the jaw. After the sequestrum has been removed the extremity should be given sunshine treatment. Heliotherapy, according to the principles of Rollier, is, in my experience, the most valuable means at our command for healing old discharging sinuses, and should always be employed, if possible, in cases of chronic osteomyelites. Of course, sequestra should be removed by operation.

Dr. McCurdy showed some pictures of ununited fractures, both pathologic and traumatic. I wish to emphasize the point that we should never despair of securing union, no matter how ancient the fracture. I saw a patient, a girl of eleven years of age, who had an ununited fracture of both bones of her leg since birth. She had never walked on this leg. Consequently, it was 3 inches shorter than the other one, and the bones were very small and atrophic. Two operations failed to give union; but a third operation, whereby I transplanted a large graft from the other tibia, burying one end in the malleolus and the other in the tuberosity, gave her a solid leg on which she is now walking. In such cases we should allow early weight bearing while the leg is in a plaster cast in order to stimulate bone growth. That "function stimulates growth" cannot be over-emphasized.

In one picture shown by Dr. McCurdy partial destruction of the radius had been repaired by a bone graft, but there was marked radial deviation of the hand due to shortening of the radius. This was caused by destruction of the epiphysis, and the consequent failure of the radius to maintain equal growth with the ulna. I have seen a similar condition of the foot due to destruction of the lower epiphysis of the tibia in a growing child. A severe deformity is produced which is difficult to treat because the child is still growing, and the inequality of the two bones is increasing.

The case of so-called "myositis ossificans" due to repeated forcible manipulation of an ankylosed elbow shows the futility of attempting to secure motion in such a joint by manipulation. An excision of the elbow should have been performed in the first place. I believe it to be the operation of choice for ankylosis of the elbow due to old fracture or fracture-dislocation.

FOLLOW-UP SYSTEM OF PENNSYLVANIA DEPARTMENT OF HEALTH FOR FORMER TUBERCULOUS PATIENTS *

KARL SCHAFFLE, M.D.
CAMP HILL

The follow-up system of the Pennsylvania Department of Health for the tracing and reporting of patients discharged from the state sanatoria and dispensaries differs from most of the plans in operation for such purposes in the method employed and in the number and character of the reports obtained. The method consists in actual face-to-face inquiry and inspection of the former patient by the dispensary nurse who has been intimately acquainted with his physical condition and economic status during his enrolment as an active case. One hundred and thirty nurses carry on these special investigations throughout the state in addition to their supervision of the home-care of those in regular attendance. Such follow-up visits are made, for a period of two years after the patient's discharge, at intervals of six months. Since July, 1907, when the first state tuberculosis dispensary was opened, until Dec. 31, 1917, there have been 107,364 admissions to the dispensaries. Of these, 26,256 have been transferred to the sanatoria. There have been 25,457 discharges from the sanatoria and 96,748 discharges from the dispensaries. The follow-up reports of exsanatorium patients from Jan. 1, 1912, until Jan. 1, 1918, number 14,471, and of the former dispensary patients, from Jan. 1, 1914, until Jan. 1, 1918, 32,276. The character of the reports is shown by examination of the forms provided (Form 112 and Form 414).

But before proceeding to the study of this system and the results thereby obtained, it will make the subject more readily understood if we first briefly review the routine operation of the department's division for the control of tuberculosis in the disposition of active cases. On his entrance to a dispensary the patient is asked to sign a statement that he is not able to pay for treatment; his history is elicited, which, in addition to the previous medical history and that of the present illness, includes special inquiries as to his occupation, family income, number of dependents, the amount of his rent, insurance and sick benefits; his height, weight, temperature, pulse, respiration and blood pressure are recorded, and he is given a thorough physical examination, which includes an examination of the larynx. All findings are recorded on special charts. The patient is instructed in the use of sputum cups and paper napkins and is given a sterile receptacle for the collection of a specimen of suptum to be sent to the state laboratory. If the diagnosis is positive the patient is at once informed of his condition and of the measures necessary for his improvement or recovery and for the avoidance of transmitting his infection to others. His name is officially enrolled on the dispensary list and within forty-eight hours a department nurse visits his home. She makes a sanitary and social survey, verifies the claim of indigency and adjusts the family, as gently as possible, to their new responsibility. She initiates the new *modus vivendi* outlined by the dispensary physician, arranging for the patient to sleep alone, outdoors if possible, or at least with the windows wide open. She explains the necessity for dispensing with floor-covering and hangings and of all articles which cannot be cleaned by means of a damp cloth. She sees that all rubbish is removed from the premises, that the sink and sewer are clear and provided with disinfectant, that garbage is covered and removed promptly, and that the windows are screened by netting. She instructs the family in the care of the patient's utensils, in the importance of regular bathing, dental care and the proper selection and preparation of food. The social and economic problems of the family are noted and subsequently discussed with the dispensary physician. Thus, the underlying causes of the disease may be exposed for attack. The Bureau of Housing or other divisions of the department may be asked to cooperate.

Every patient is urged to go to a state sanatorium. For each one who accepts this advice an application is forwarded from the dispensary to Harrisburg where such applications are kept in the order of their arrival, and constitute the waiting list from which the vacancies in the institutions at Mont Alto, Cresson and Hamburg are filled.

If the patient enters a sanatorium it is with the understanding that he will remain for at least four months and as much longer as his condition may require. With apparent arrest of his disease under sanatorium routine, he is allowed to engage in graduated labor carefully supervised, for which, after a certain time he receives remuneration. He is also encouraged to participate in the social activities which are provided.

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

When a patient leaves the sanatorium he is told to return to the dispensary from which he gained admission or to the one nearest his home, if his family has moved. The dispensary is notified at the same time, and if he fails to report he is visited and urged to remain in active attendance for advice and observation during the very critical period of readjustment to his former environment and the resumption of work.

Now, if the patient is not able, or cannot be persuaded to avail himself of sanatorium treatment, he comes to see the dispensary physician at weekly or biweekly intervals for instruction with other members of a class or for individual treatment, while the nurse continues his supervision at home.

The discharge of a patient from sanatorium or dispensary may occur in several ways. He may be discharged from the dispensary because

Commonwealth of Pennsylvania
Form 112 **DEPARTMENT OF HEALTH**

Follow Up Report Former Dispensary Patient.

Dispensary No............... Date.................191...

Name.................................... Age........... Nativity............. MF WB S M W {Div. Sep.

Present Address No..................................St. City of....................................

First Admission...... ....19... Incipient, Moderately Advanced, Far Advanced.

First Discharge.........................19... Cured, App. Cured, Arrested, App. Arrested {Improved Unimproved

Last Admission..........................19... Incipient, Moderately Advanced, Far Advanced.

Last Discharge..........................19... Cured, App. Cured, Arrested, App. Arrested {Improved Unimproved

Reasons for last discharge:

- Cured, Apparently cured, Arrested, Apparently arrested.................................
- Nonattendance at Dispensary for over 2 mos. ....
- Removal from district to...
- Noncompliance with Instructions, chiefly as to....................................
- Referred to Family Physician.
- Referred to outside Institution, i. e.,.......................................

Treated with Tubercle Extract or Emulsion?..

Sputum last Examined..................19... T. B. Present, Absent.

NOTE.—Strike out words which do not apply. Above information to be obtained from Dispensary records.

(Reverse side of Form 112)

Symptoms of last 2 mos. Fever, Night Sweats, Hemorrhage, Appetite, {*Good. Fair. Poor.*

Weight since discharge, Gained, Lost.. Approximate amount ....lbs.

Physical condition since discharge.. {*Improved, Stationary, Progressive.* / *Died ....19... Cause...................*

Habits: Alcohol, Tobacco, Narcotics...

Observance Dispensary Instructions, Good, Fair, Poor, Disinfection of home.....................19...

Hours out of doors daily average............................., Sleep out, Porch, Roof, Yard, Window tent.

Occupation before illness............................Self-supporting then, Yes, No, Partially, {*Av. Weekly earnings $..........*

Occupation now..................................Self-supporting then, Yes, No, Partially, {*Av. Weekly earnings $..........*

Total Adults in family......... Children......... Tuberculous Adults.........Tuberculous Children........

At Dispensary Adults.......... Children........

From whom does your report come?................ Remarks..

....

....

Countersigned..............................*M. D.* *Signed*...
Physician-in-Charge.

Inspect patient 6 mos. after discharge. Report every 6 mos. for 2 years. Mail report to Harrisburg, file a copy at Dispensary. Above report to be obtained from patient if alive or from nearest relative or friend.

he is found to be nonindigent and is then referred to his family physician. He may be dismissed from either dispensary or sanatorium for noncompliance with regulations. He may leave the sanatorium "against advice" before the expiration of four months or voluntarily after this period. He may be discharged from the sanatorium in regular form but fail to return to the dispensary. He may be dropped from the dispensary roll for persistent absence in spite of repeated visits by the nurse. He may be referred to another dispensary because of removal from the community. He may die while on the dispensary roll, or at the sanatorium, or he may be discharged from either, as "cured," "apparently cured," "arrested" or "apparently arrested," according to the department's discharge classification:

Cured: All constitutional symptoms and expectoration with bacilli absent for a period of *two years* under ordinary conditions of life.

Apparently Cured: All constitutional symptoms and expectoration with bacilli absent for a period of *six months;* the physical signs to be those of a healed lesion.

Arrested: All constitutional symptoms and expectorations with bacilli absent for a period of *three months;* the physical signs to be those of a healed lesion.

Apparently Arrested: Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months.

Commonwealth of Pennsylvania

DEPARTMENT OF HEALTH

Form 114

Division of Tuberculosis Sanatoria

Report—Condition of Ex-Patient

Dispensary No..... ....Penna. Date.................. 191...

Name.............................. Age..........M. F. W. B. S. M. W. Div. San. Discharge No........

Address.............................. No.................... St..................................County

(1) Admitted..........191... to Sanatorium No...... (2) San. classification............................

(3) Discharged............191... (4) Reason......................... (5) Result...................

(6) Treated.......months at Sanatorium. (7) Report made.........months after discharge from Sanatorium.

(8) Patient died.......months following discharge from Sanatorium ....

(9) Probable cause of death...

(10) Treated with Tubercle Bacilli Extract at Sanatorium: Yes. No. (11) At Dispensary: Yes No....

(12) Treated with Emulsion Dead Tubercle Bacilli at Sanatorium: Yes. No. (13) At Dispensary: Yes. No...

(14) Returned to Dispensary following discharge from Sanatorium: Yes. No.

(15) Now regular attendant: Yes. No.........

(16) Occupation before first illness from Tuberculosis............... (17) Average weekly earnings.........

(18) Occupation before last admission to Sanatorium.................(19) Average weekly earnings.........

(20) Present occupation............................. (21) Average weekly earnings.....................

(22) Self-supporting before last admission to Sanatorium: Yes. No.

(23) Self-supporting present time. Yes. No...........

(24) Number in family: .... adults: .... children: ....

(25) Number tuberculous: ....adults: .... children: ....

(26) Number other tuberculous persons in family visiting Dispensary: ....adults: .... children: ....

(27) Number other tuberculous persons in family not visiting Dispensary: ..... adults: ..... children: ......

(28) Tuberculous persons occupy separate bed: Yes. No. (29) Separate room: Yes. No......

(30) Living and sleeping rooms clean: Yes. No. (31) Overcrowded: Yes. No.......

(32) Observation Dispensary instructions: Good. Fair. Poor. ....

(33) Have house or sleeping rooms been disinfected recently: Yes. No. ....

(34) Window tent provided: Yes. No. (35) Sleeping porch provided: Yes. No........

(36) Date last sputum examination.................. (37) Were tubercle bacilli found: Yes. No.......

(38) Have the following symptoms occurred during thepast two months: (39) Fever: Yes. No.........

(40) Night Sweats: Yes............ No........... (41) Hemorrhage: Yes............ No...........

(42) Has patient gained or lost weight since discharge from Sanatorium? ....

(43) Patient improved since discharge from Sanatorium: Yes. No..................................

(44) Patient's condition practically unchanged since discharge from Sanatorium: Yes No...........

(45) Patient's condition has become worse since discharge from Sanatorium: Yes. No.............

(46) Remarks ....

....

....

Countersigned ....M. D. Signed: ....Nurse.
Doctor:

See that all blanks are properly completed before being mailed to the Sanatorium.

Improved: Constitutional symptoms lessened or entirely absent; physical signs improved or unchanged; cough and expectoration with bacilli usually present.

Unimproved: All essential symptoms and signs unabated or increased.

Died:

Note: (The term "cured" was not adopted by the department until 1916).

Follow-up visits have been made on patients of all classifications, except, of course, those who died while on the active lists. Patients who left the sanatoria before the end of four months were not included in the sanatorium reports.

The follow-up of the exsanatorium patients was started two years before the investigation of the former dispensary patients and the results of each have been kept separate by the use of forms which differ in size and slightly in text. Both forms provide for a record of the patient's name, address, age, nativity, civil condition and dates of admissions and discharges with the classifications for each, the reason for discharge, whether treated with tuberculin, the sputum report, the symptoms of the two months preceding the "up-follow," the gain or loss in weight, and the change in the physical condition since discharge (improved, stationary or progressive); if dead since discharge, the cause; the use of alcohol, tobacco or drugs and the observance of instructions (good, fair, poor), the date of the last house disinfection, the hours spent out of doors and whether a sleeping porch, roof, yard or window tent is used, the occupation and average weekly income before illness and at the time of the visit; the total number of adults and of children in the family and the number of each who are tuberculous. A foot note contains emphatic instructions to obtain the information from the patient himself, whenever possible, or from the nearest relative or friend. The reports are signed by the nurse, countersigned by the physician in charge of the dispensary and mailed to Harrisburg, while duplicates are retained at the dispensaries.

CHART A.—SCHEMA OF UP-FOLLOW

Admission Classification	Discharge Classification	"Up-follow" Classification
Incipient	Cured	Improved
Moderately advanced	Apparently cured	Stationary
Far advanced	Arrested	Progressive
	Apparently arrested	Dead of tuberculosis
	Improved	Dead from other causes
	Unimproved	No data
	Progressive	

After the reports are edited at Harrisburg the results of the work are tabulated (as are all of the department's statistics), by means of the Hollerith cards and machines of our Bureau of Vital Statistics. The schema of tabulation is shown on Chart A. It includes the admission classification, the discharge classification and the follow-up classification.

Turning to the results of the tabulations, let us consider, first, the figures for the exsanatorium patients. These are shown on Chart B. Of the 14,471 reports covering this period of seven years, 11,412 were on graduates of State Sanatorium No. 1, at Mont Alto, which was established in July, 1907, and in two or three years attained a capacity of 1,135 beds; 2,001 were on those of Sanatorium No. 2, at Cresson, which was opened Jan. 1, 1913, and has reached a capacity of 700, while 1,058 reports were obtained from Sanatorium No. 3, at Hamburg, which began operations Oct. 18, 1914, with a capacity of 480.

It is obvious that the results of treatment are best in those patients referred in the early stage and discharged with a favorable classification.

The reports for patients, who simply attended the dispensaries and did not go to the sanatoria, have been divided into groups according to the reasons for discharge. This was done so that certain problems, which pertained to each group, might receive particular attention. Thus, during the ten years, 7,399 of these patients were discharged from the dispensaries because of "arrest" or "cure" of the disease, 28,812 because of nonattendance, 18,153 because of removal, 1,693 for noncompliance with instructions, and 3,034 were referred to their family physicians because they were not indigent. Our greatest concern has been with those who were dropped for "nonattendance" and the nurses were directed to make special efforts toward finding out why they ceased their visits. Many patients become indifferent after the relief of acute symptoms. Some refuse to believe that they are tuberculous. Others become weary of the régime outlined for them and fall back into their old habits. It might be of interest to read a few of the nurses' remarks on members of this group.

"Patient working every day, looks sick but says he is well. Will come to dispensary for examination. Home clean."

"Does not think he has consumption. Advised to return."

"Coughs, expectorates, is not careful. Last time he visited dispensary was advised to go to sanatorium and it frightened him."

CHART B.—PENNSYLVANIA DEPARTMENT OF HEALTH FOLLOW-UP REPORT OF EXSANATORIUM PATIENTS JAN. 1, 1912, TO DEC. 31, 1917

Admis. Class	Total	Discharged Class	Total	Up-Follow Class	Total	1912	1913	1914	1915	1916	1917
	14,471		14,471	Total	14,471	2,867	2,306	1,900	3,078	1,369	2,951
Incipient	2,687	Cured	1	Improved	1	0	0	0	1	0	0
		Apparently cured	551	Improved	340	11	22	62	148	32	65
				Stationary	148	18	29	28	36	12	25
				Progressive	26	3	4	6	9	3	1
				Dead of tuberculosis	2	0	2	0	0	0	0
				Dead, other causes	0	0	0	0	0	0	0
				No data	35	4	5	11	1	5	9
		Arrested	1,149	Improved	692	74	88	114	235	64	117
				Stationary	289	54	46	41	81	26	41
				Progressive	87	8	15	18	39	0	7
				Dead of tuberculosis	6	4	0	1	1	0	0
				Dead, other causes	0	0	0	0	0	0	0
				No data	75	21	15	13	3	7	16
		Apparently arrested	206	Improved	132	0	0	0	27	23	82
				Stationary	47	0	0	0	5	8	34
				Progressive	10	0	0	0	3	4	3
				Dead of tuberculosis	0	0	0	0	0	0	0
				Dead, other causes	0	0	0	0	0	0	0
				No data	17	0	0	0	0	3	14
		Improved	662	Improved	344	66	48	47	113	25	45
				Stationary	142	38	34	17	30	12	11
				Progressive	78	20	28	7	16	4	3
				Dead of tuberculosis	32	9	13	6	3	0	1
				Dead, other causes	1	0	0	0	1	0	0
				No data	65	24	12	14	1	4	10
		Unimproved	118	Improved	51	15	9	6	9	2	10
				Stationary	18	6	5	1	1	4	1
				Progressive	16	7	4	1	4	0	0
				Dead of tuberculosis	16	4	7	0	1	1	3
				Dead, other causes	1	0	0	0	1	0	0
				No data	16	10	1	1	1	1	2
Moderately advanced	6,501	Cured	0	Improved	0	0	0	0	0	0	0
		Apparently cured	337	Improved	164	11	15	41	52	16	29
				Stationary	111	26	27	17	25	3	13
				Progressive	30	2	5	6	12	0	5
				Dead of tuberculosis	3	2	1	0	0	0	0
				Dead, other causes	0	0	0	0	0	0	0
				No data	29	9	4	6	1	3	6
		Arrested	2,150	Improved	1,032	152	104	152	355	95	174
				Stationary	566	103	108	87	161	40	67
				Progressive	279	39	56	53	87	24	20
				Dead of tuberculosis	82	24	18	12	19	2	7
				Dead, other causes	0	0	0	0	0	0	0
				No data	191	47	26	52	8	18	40
		Apparently arrested	490	Improved	212	0	0	0	21	48	143
				Stationary	130	0	0	0	5	38	87
				Progressive	41	0	0	0	4	4	33
				Dead of tuberculosis	13	0	0	0	1	2	10
				Dead, other causes	1	0	0	0	0	0	1
				No data	93	0	0	0	0	21	72
		Improved	2,719	Improved	1,057	176	142	114	277	139	209
				Stationary	580	106	94	61	133	69	117
				Progressive	422	83	69	56	103	33	78
				Dead of tuberculosis	293	91	72	39	51	13	27
				Dead, other causes	10	0	0	0	4	0	6
				No data	357	117	58	39	18	32	93
		Unimproved	805	Improved	172	29	28	21	38	21	35
				Stationary	88	22	12	4	25	4	21
				Progressive	128	28	26	21	28	6	19
				Dead of tuberculosis	332	97	71	55	37	23	49
				Dead, other causes	1	0	0	0	0	0	1
				No data	84	24	18	9	7	7	19
Far advanced	5,283	Cured	0	Improved	0	0	0	0	0	0	0
		Apparently cured	35	Improved	12	2	1	0	5	2	2
				Stationary	8	3	0	2	2	0	1
				Progressive	6	1	0	2	0	2	1
				Dead of tuberculosis	3	1	0	0	2	0	0
				Dead, other causes	0	0	0	0	0	0	0
				No data	6	2	1	1	0	1	1
		Arrested	705	Improved	211	42	31	37	63	16	22
				Stationary	225	62	46	36	56	7	18
				Progressive	109	22	27	23	25	5	7
				Dead of tuberculosis	76	16	20	14	17	3	6
				Dead, other causes	2	0	0	0	1	0	1
				No data	82	34	11	19	6	4	8
		Apparently arrested	202	Improved	65	0	0	0	6	13	46
				Stationary	55	0	0	0	3	14	38
				Progressive	31	0	0	0	3	9	19
				Dead of tuberculosis	19	0	0	0	0	6	13
				Dead, other causes	1	0	0	0	0	0	1
				No data	31	0	0	0	0	12	19
		Improved	2,289	Improved	451	79	54	52	92	48	126
				Stationary	413	96	56	31	90	49	91
				Progressive	489	106	76	55	102	44	106
				Dead of tuberculosis	685	211	166	84	75	48	101
				Dead, other causes	4	0	0	0	2	0	2
				No data	247	85	25	33	13	20	71
		Unimproved	2,052	Improved	120	30	23	11	16	9	31
				Stationary	131	34	15	9	20	14	39
				Progressive	307	84	58	41	42	27	55
				Dead of tuberculosis	1,344	325	330	198	190	98	203
				Dead, other causes	3	0	0	0	1	0	2
				No data	147	48	25	13	4	17	40

"Considers herself cured. Has felt it unnecessary to attend dispensary."

"Patient did not return because she was not given milk, like the woman next door."

"Doesn't believe in germs or the use of fresh air. Believes in witches!"

Thus, it is possible to apply stimulation where needed to overcome the apathy so common among the class of people with which we have to deal.

The problem in connection with patients who have moved is, naturally, that of tracing them and if they have left the community, of referring them to the state dispensary nearest their new location, or, if they have left the state, of reporting the fact to the Harrisburg office so that the health authorities of the state into which they moved may be notified.

In the case of the relatively small number who are dismissed for "noncompliance with regulations," it is frequently found that they have learned their lesson and have simply hesitated to take the initative for reinstatement.

Patients referred to private physicians or institutions outside the department are visited if permission is obtained from those in charge of them. The results of the reports on the former dispensary patients, divided into groups according to the reasons for discharge, are given in detail in the annual reports of the department. For inclusion in this paper, they have been consolidated in Chart C.

Comparison of the dispensary with the sanatorium figures shows that of those classified on admission as incipient, 90 per cent. were discharged from sanatoria with a favorable classification ("cured," "apparently cured," "arrested," "apparently arrested" and "improved"), while 80 per cent. were so discharged from the dispensaries. Of those admitted as moderately advanced, 87 per cent. were discharged from the sanatoria with a favorable classification and 68 per cent. from the dispensaries. Of the far advanced, 61 per cent. were discharged favorably from the sanatoria, while 38 per cent. were thus discharged from the dispensaries.

The sanatorium cases who were classified on admission as incipient and discharged with a favorable classification were found to be "improved" or "stationary" on up-follow in 83 per cent. and those discharged with an unfavorable classification were found "improved" on up-follow in 43 per cent; the figures for the corresponding dispensary cases were 86 per cent. and 50 per cent., respectively. The moderately advanced sanatorium cases with favorable discharge classifications received a favorable up-follow classification in 67 per cent. and those discharged unfavorably were found improved in 21 per cent., while the corresponding dispensary figures are 89 per cent. and 36 per cent., respectively. The far-advanced cases favorably discharged from sanatoria were found in a favorable condition in 44 per cent. and those discharged unfavorably were found improved in 5 per cent. The corresponding dispensary figures are 63 and 13 per cent., respectively.

This superiority of the sanatorium figures over the dispensary figures at the time of discharge and of the dispensary figures over those of the sanatoria at the time of up-follow emphasizes the great importance of having sanatorium patients report to and keep in touch with the dispensary after leaving the sanatorium. The change from the ideal environment of the sanatorium to the conditions at home is too abrupt to be made without the closest medical and social supervision. This requires considerable tact and perseverance on the part of physician and nurse as the majority (approximately 75 per cent.) of the patients discharged from the sanatoria do not report to the dispensaries as instructed, feeling that they are so well that they require no further treatment and wishing to put an end to a subject of which they have grown weary. It should be noted, also, that the patients who prefer to receive dispensary treatment instead of going to the sanatoria usually enjoy better home environment and, perhaps, on the whole, are not so active clinically as those who go.

In addition to the consideration of the physical condition of the patients after discharge, it is interesting to study their economic status before and after treatment as this is a very practical criterion by which to judge its results. Such a study is summarized as follows:

OCCUPATIONS AND FAMILY INCOMES
EXSANATORIUM PATIENTS

Incipient male:	
Decrease in number occupied at time of up-follow compared with number occupied on admission	2.6 per cent.
Average weekly income before admission	$ 8.60
Average weekly income at up-follow	10.40
Average weekly increase	1.80
Incipient female:	
Increase in number occupied	3.5 per cent.
Average weekly income before admission	$ 6.90
Average weekly income at up-follow	7.43
Average weekly increase	.53
Moderately advanced male:	
Decrease in number occupied	2.1 per cent.
Average weekly income before admission	$10.42

CHART C.—PENNSYLVANIA DEPARTMENT OF HEALTH FOLLOW-UP REPORT OF FORMER DISPENSARY PATIENTS, JAN. 1, 1914, TO DEC. 31, 1917

Admis. Class	Total	Discharged Class	Total	Up-Follow Class	Total	1914	1915	1916	1917
	32,276		32,276	Total	32,276	5,454	9,238	8,751	8,833
Incipient	16,890	Cured	121	Improved	101	0	9	39	53
				Stationary	13	0	3	1	9
				Progressive	2	0	0	1	1
				Dead of tuberculosis	0	0	0	0	0
				Dead, other causes	0	0	0	0	0
				No data	5	0	2	1	2
		Apparently cured	367	Improved	290	45	56	105	84
				Stationary	51	8	10	12	21
				Progressive	5	0	3	2	0
				Dead of tuberculosis	2	0	0	2	0
				Dead, other causes	1	0	0	0	1
				No data	18	2	2	3	11
		Arrested	4,040	Improved	3,012	727	933	726	627
				Stationary	600	125	179	165	131
				Progressive	102	32	33	26	11
				Dead of tuberculosis	20	16	1	3	0
				Dead, other causes	11	0	3	4	4
				No data	295	117	73	45	60
		Apparently arrested	480	Improved	380	0	20	136	224
				Stationary	74	0	1	31	42
				Progressive	6	0	0	2	4
				Dead of tuberculosis	1	0	0	0	1
				Dead, other causes	1	0	0	1	0
				No data	18	0	0	8	10
		Improved	8,648	Improved	5,774	896	1,564	1,686	628
				Stationary	1,501	288	388	415	410
				Progressive	333	78	104	85	66
				Dead of tuberculosis	83	23	26	16	18
				Dead, other causes	26	0	5	13	8
				No data	931	62	354	244	271
		Unimproved	3,234	Improved	1,633	211	539	474	409
				Stationary	704	119	181	219	185
				Progressive	194	45	57	51	41
				Dead of tuberculosis	127	51	37	17	22
				Dead, other causes	19	0	8	6	5
				No data	557	65	190	142	160
Moderately advanced	12,641	Cured	63	Improved	49	0	2	19	28
				Stationary	11	0	0	4	7
				Progressive	0	0	0	0	0
				Dead of tuberculosis	0	0	0	0	0
				Dead, other causes	0	0	0	0	0
				No data	3	0	0	1	2
		Apparently cured	189	Improved	141	27	26	35	53
				Stationary	39	7	7	9	16
				Progressive	2	1	0	1	0
				Dead of tuberculosis	0	0	0	0	0
				Dead, other causes	2	0	0	1	1
				No data	5	0	0	3	2
		Arrested	1,944	Improved	1,298	206	439	349	304
				Stationary	405	51	107	116	131
				Progressive	71	22	20	15	14
				Dead of tuberculosis	17	4	5	2	6
				Dead, other causes	9	0	3	1	5
				No data	144	30	40	32	42
		Apparently arrested	296	Improved	202	0	15	67	120
				Stationary	60	0	5	17	38
				Progressive	7	0	0	0	7
				Dead of tuberculosis	5	0	0	3	2
				Dead, other causes	1	0	0	0	1
				No data	21	0	1	6	14
		Improved	6,147	Improved	3,413	511	974	990	938
				Stationary	1,378	263	333	384	398
				Progressive	383	98	102	88	95
				Dead of tuberculosis	215	77	52	42	44
				Dead, other causes	25	0	3	15	7
				No data	733	68	255	187	223
		Unimproved	4,002	Improved	1,474	218	487	402	367
				Stationary	896	116	250	239	291
				Progressive	396	93	109	99	95
				Dead of tuberculosis	484	194	124	78	88
				Dead, other causes	37	0	16	14	7
				No data	715	70	253	180	212
		Cured	7	Improved	2	0	0	1	1
				Stationary	2	0	0	1	1
				Progressive	1	0	0	1	0
				Dead of tuberculosis	1	0	0	0	1
				Dead, other causes	0	0	0	0	0
				No data	1	0	0	0	1

CHART C.—PENNSYLVANIA DEPARTMENT OF HEALTH FOLLOW-UP REPORT OF FORMER DISPENSARY PATIENTS, JAN. 1, 1914, TO DEC. 31, 1917—Continued

Admis. Class	Total	Discharged Class	Total	Up-Follow Class	Total	1914	1915	1916	1917
Far advanced	2,649	Apparently cured	17	Improved	10	0	0	2	8
				Stationary	7	0	4	1	2
				Progressive	0	0	0	0	0
				Dead of tuberculosis	0	0	0	0	0
				Dead, other causes	0	0	0	0	0
				No data	0	0	0	0	0
		Arrested	114	Improved	65	4	30	19	12
				Stationary	31	1	7	11	12
				Progressive	9	1	6	0	2
				Dead of tuberculosis	1	0	0	1	0
				Dead, other causes	0	0	0	0	0
				No data	8	1	2	3	2
		Apparently arrested	22	Improved	11	0	1	4	6
				Stationary	3	0	0	1	2
				Progressive	4	0	0	1	3
				Dead of tuberculosis	3	0	0	2	1
				Dead, other causes	1	0	1	0	0
				No data	0	0	0	0	0
		Improved	855	Improved	342	42	93	97	109
				Stationary	175	24	54	56	41
				Progressive	84	20	25	17	22
				Dead of tuberculosis	119	37	23	20	39
				Dead, other causes	9	0	1	5	3
				No data	126	8	45	37	36
		Unimproved	1,634	Improved	215	24	72	57	62
				Stationary	179	24	46	56	53
				Progressive	182	30	48	49	55
				Dead of tuberculosis	787	238	255	125	169
				Dead, other causes	15	0	3	9	3
				No data	256	31	84	57	84
Glands	83	Arrested	9	Improved	5	1	1	1	2
				Stationary	2	0	0	1	1
				No data	2	0	1	0	1
		Apparently arrested	2	Improved	1	0	0	1	0
				No data	1	0	0	1	0
		Improved	51	Improved	41	1	13	19	8
				Stationary	4	0	2	2	0
				No data	6	0	3	0	3
		Unimproved	21	Improved	16	0	4	5	7
				Stationary	4	0	0	3	1
				No data	1	0	1	0	0
Bone	5	Arrested	1	Improved	1	0	0	1	0
		Improved	3	Improved	1	0	0	1	0
				Stationary	1	0	0	1	0
				No data	1	1	0	0	0
		Unimproved	1	Improved	1	0	1	0	0
Lupus	8	Apparently arrested	1	Improved	1	0	0	0	1
		Improved	5	Improved	3	2	0	0	1
				Stationary	2	1	0	1	0
		Unimproved	2	Improved	1	0	0	1	0
				No data	1	0	0	0	1

Average weekly income at up-follow 13.15
Average weekly increase............ 2.73

Moderately advanced female:
Decrease in number occupied....... 3.5 per cent.
Average weekly income before admission ....$ 6.55
Average weekly income at up-follow 6.77
Average weekly increase............ .22

Far advanced male:
Decrease in number occupied........ 18.7 per cent.
Average weekly income before admission $12.25
Average weekly income at up-follow 12.25
Average weekly income the same.

Far advanced female:
Decrease in number occupied....... 18.0 per cent.
Average weekly income before admission ....$ 7.72
Average weekly income at up-follow 7.30
Average weekly decrease........... .42

Former Dispensary Patients

Incipient male:
Decrease in number occupied....... 1.9 per cent.
Average weekly income before admission $11.10
Average weekly income at up-follow 15.66
Average weekly increase.......... 4.56

Incipient female:
Increase in number occupied........ 3.7 per cent.
Average weekly income before admission ....$ 5.00
Average weekly income at up-follow 6.65
Average weekly increase.......... 1.65

Moderately advanced male:
Decrease in number occupied....... 12.5 per cent.
Average weekly income before admission $12.27
Average weekly income at up-follow 11.75
Average weekly decrease.......... .52

Moderately advanced female:	
Decrease in number occupied	3.1 per cent.
Average weekly income before admission	$11.21
Average weekly income at up-follow	5.85
Average weekly decrease	5.36
Far advanced male:	
Decrease in number occupied	26.8 per cent.
Average weekly income before admission	$19.45
Average weekly income at up-follow	11.95
Average weekly decrease	7.50
Far advanced female:	
Decrease in number occupied	14.5 per cent.
Average weekly income before admission	$ 7.35
Average weekly income at up-follow	6.16
Average weekly decrease	1.19

Of course, the increase in the wage scale since 1914 has played an important part in such figures. The effect of marriage on a woman's income should also be kept in mind. Those under occupational age are not included in the tabulation.

There are many other interesting details in the wealth of material collected which cannot be included within the limits of one paper, such as the effects of tuberculin, the influence of alcohol and tobacco and certain sociologic factors. These appear in the annual reports of the department, which also give in detail the intervals between discharge and up-follow. The intervals ranged from six to forty-eight months. The average interval was one year, which includes two visits.

By this survey of patients after they have left the care of the state, an estimate is formed of the value of the department's treatment and education of these unfortunates and the expenditure of the time and effort on this special work, in addition to the routine operations of handling the active cases, is fully justified. The follow-up system thus serves as an indicator which shows, constantly, how much actual good is being accomplished through the department's regular activities. Incidentally, it affords an additional means of standardization of the work of the staff of 130 nurses employed in a state of such size, varying so widely in topography, industry, race and creed.

Those who are fond of calculating the value of human life, especially at this time, may use these figures to prove how great a return has been made to the commonwealth from its appropriations for the continuation of its antituberculosis work. That the lives saved are being used to the utmost advantage to Pennsylvania and to the nation is attested by the great number of these former invalids who have been found engaged in such essential industries as munition-making, mining and shipbuilding, and that forty-five of the former dispensary patients and twenty-four of the exsanatorium patients have been reported as in active service with the American Army. Finally, this follow-up system reaches what has been called the three great problems of after-care—the enumeration of the instances of "no relapse," the prevention of the cases of "preventable relapse" and the relief of the cases of "nonpreventable relapse."

DISCUSSION

Dr. B. Franklin Royer, Harrisburg: I have taken a very active interest in the follow-up system of discharged tuberculous patients, because all who are interested in public health work ultimately look for the final trial balance sheet just as the business man looks on it to see whether profit or loss may be counted in his business. So in all public health work vital statistics, the ultimate death rate is the final result. With dispensary and sanatorium treatment some such follow-up system must be relied on to prove the end results that you aim to attain. The following up of these more than 100,000 patients by nurses trained for the work, to gather in an unbiased way the essential facts of health and of earning capacity and then the efforts on the part of the department to tabulate these facts into one mass so that they may be intelligently scrutinized by the students of the department is the aim and object. It is probably altogether too soon in the study of the tuberculosis problem to begin patting ourselves smugly on the back and to feel that we are doing by any means all that should be done. After all, the campaign of tuberculosis is almost wholly an educational one; we aim to teach individuals how they should live in order that Nature may effect the cure. After all, it is largely a question of food and open air, rest when needed, exercise when indicated. It is a careful direction of the habits of life which results in the cure of the individual once infected. It is a question of teaching that individual such methods of living that he will not infect the children who surround him. It will take at least twenty-five to fifty years of just such an intensive educational drive to reach a point where our final statistics will show the results.

As a result possibly of other influences than those purely educational in operation for fifteen years before the executive campaign began and less intensively for a still further period of fifteen or twenty back of that the death rate from tuberculosis is already showing a decline which may be checked now that we are in this world-wide war. The decline in the death rate for tuberculosis of the lungs from 150.9 per 100,000 population in 1906, the first year in which the state has statistics, to a point a little under 130 in 1917, the last complete year for which we have figures for tuberculosis of the lungs, and for all forms of tuberculosis from 129 to below 110, has been very great. Perhaps it is true that some of that decline in the death rate may have been simply a postponing of the deaths of those who are certain to die of the disease sooner or later, because, as you know, it is a simple matter to prolong a tuberculous individual's life over a few years if you get him under complete control. It is a much more difficult matter to bring about a cure, especially if the disease has existed for some time, and with this intensive drive in operation for some years it is natural that there should have been a postponement of the number of deaths. It is fair to say that statistics, so far as available in the registration area of this country, and so far as available in England, Sweden and Germany, show a decline that was gradual, beginning back in the eighties. Improved housing conditions, better living conditions, the referring of individuals with bad hygienic conditions to institutions for treatment, these things have been telling all along the line. It is certainly true that for every dollar expended in this sort of educational work the state is bound to get a good return.

Dr. Charles H. Miner, Wilkes-Barre: One part of the work in the dispensary is of special interest today and that is to look up the soldiers who register and who have been rejected by the draft boards and the army camps for tuberculosis. At this time, of course, that is of greater importance than almost any other feature of the tuberculosis work of the department, because many of these man have never suspected that they had any trouble of that kind and they especially should be sought out and urged to secure some advice and treatment. At the dispensary in Wilkes-Barre we have had eighty-five names referred to us of registrants who have been rejected. The number found by the nurses of the dispensary was seventy-two; the number taken in charge by the dispensary, thirty-one; the number taken in charge by private physicians, twenty-one; the number who said they could afford to have a family physician was fourteen. These patients were all working and said they were feeling well. The number who refused treatment was three; number still in training camp, one; died, two. The number that have already been sent to state sanatoriums, five; number returned against advice from sanatoriums, one; number of men on list for sanatoriums, four. The number of men not found was thirteen; wrong address, five; moved away, three. In my mind this is a very important work. Many of them are very skeptical about having any trouble and are patients who need the advice of the nurses and the physicians at the dispensary.

Dr. Schaffle, closing: We have received through the cooperation of Major Murdock, who is in charge of the selective service of Pennsylvania, the names of over 1,200 draftees rejected by selective service boards throughout the state. We write a letter to each man so rejected, telling him that we have received confidential information that he has been rejected on account of tuberculosis and advising him to seek treatment through his family physician, or through a private institution, if he can afford to do so, or, if not, through the department by means of its dispensaries and sanatoriums. We follow that letter up by sending a dispensary nurse from the dispensary nearest the man's home to call on him personally and to explain the matter at length and to urge that he seek treatment, because practically all of these cases are the early cases, cases that are curable. We have the same difficulty, however, that we have with the average incipient case. A great many of them refuse to believe they have the disease. It takes a great deal of tact and patience to persuade them to do the right thing. We had great hopes at the beginning of this work of ultimately reducing the death rate by examination on an average of two years before the usual time (when the patient comes into the dispensary of his own accord his is an advanced case). In addition to the 1,200, we have received names of over 1,000 Pennsylvania soldiers referred to us by the Surgeon-General, from the office of Dr. Patterson, field secretary of the National Tuberculosis Association, and from the various camps. The process with them is the same as with the draftees.

THE FULL-TIME STAFF IN THE ORGANIZATION OF THE SMALL HOSPITAL*

HAROLD L. FOSS, M.D.
Surgeon to the Geisinger Memorial Hospital
DANVILLE

It is impossible in this day and time for a community to exist in comfort without adequate hospital service, and the demand for scientific institutional care of the sick is becoming as great throughout the rural sections as it is in the large cities. Patients are rapidly becoming educated to the idea, for it has come to pass that the modern hospital no longer calls to mind a dingy structure through whose musty corridors floats an odor, in composition half onion, half iodoform, and in the wards of which are herded the destitute sick and insane of the community. Nor do hospitals planned today resemble the cheerless structures of but a few years ago, but rather are we now demanding in the modern institution the acme of cleanliness, of efficiency, of sympathetic and tender care, the first place to be thought of by the patient seeking the greatest possible comfort and the most prompt restoration to health.

Full recognition of the hospital's value does not necessitate extensive propaganda on the part of the institution itself, for the patient is its best advertisement and rapidly increasing hospitalization of the sick is bringing the community to look on its hospital as its most essential public edifice, its postoffice, its town hall, even its churches not excepted. I feel that in due time our citizens throughout the nation will become so accustomed to utilizing these institutions and so fully cognizant of their importance that the maintenance of an adequate hospital will be the first thought of the taxpayer.

As to methods of staff organization; if two rural hospitals are opened in towns distant from each other, one with a fixed trained staff, the other of the usual open type permitting all physicians, irrespective of their training, the use of its beds, but with all other conditions equal, the first or fixed staff institution will accomplish twice the good of the second. This has been conclusively demonstrated in several instances. A hospital run merely to furnish a group of surgically ambitious but surgically untrained men an opportunity to experiment can attain but little in the community and surely no fame beyond a certain questionable amount within the confines of its own town. In the large cities where competent internists, surgeons, and specialists are plentiful the visiting staff scheme is, of course, the one *par excellence,* but one of the best solutions of the rural problem is the organization of thoroughly equipped, modern institutions supplying large contiguous areas and administered by trained, permanent resident staffs.

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

That there is a demand for hospitals of this type and that the plan of operation as just outlined is intensely practicable has been conclusively proven at the Geisinger Memorial, to which institution, in the way of illustration, I will refer.

This hospital was opened at Danville three years ago this month. It is of eighty-five bed capacity and is of most modern design and equipment. It has a fixed resident salaried staff which handles all the work of the hospital. The town in which it is situated is of 7,500 population, its citizens and those of neighboring towns being engaged chiefly in farming and as iron workers. For a century or more the town had existed without a hospital and the need of one had never struck the vast majority of its citizens as a matter over which to lose much sleep. Bad accident cases were shipped away, but the vast majority of patients, such as are now being treated within its walls, were treated at home. Patients presenting obvious surgical lesions were often sent to Philadelphia, while a great number with obscure conditions were treated symptomatically without definite diagnoses being made; a typical Pennsylvania country town, with hundreds of cases of preventable and curable diseases, but self-contented, self-sufficient, taking such things as a matter of course.

It was with considerable daring that a hospital of eighty beds was planned for a town of but 7,500 inhabitants, and the dubious shaking of heads and even outspoken criticism became more noticeable as the structure rose, story on story, until in September, 1915, it stood complete, a fine modern hospital, fully equipped and organized, but without a patient.

At the end of the first year it had treated 740 cases, and operations to the number of 541 had been performed with a mortality of slightly over 2 per cent. The average number of patients per day had been 29. From its own town it had treated 565 patients, but had also treated patients from 52 other towns.

The work during the second year nearly doubled and 102 towns other than Danville were represented. A continued increase was maintained during the third year until now, as a total for its first three years, the hospital has records of 3,200 patients having been treated, 2,257 operations performed and hospital service rendered, if represented in figures, amounting to $178,000. The hospital is now filled and there is constantly a waiting list for private and semi-private rooms.

In our hospital the new patient, particularly if his condition be vague and the problem of diagnosis not possible of prompt solution, is urged to enter the institution for complete study. The necessity of a thorough and painstaking analysis of his condition is briefly outlined to him and it is only the exceptional patient who does not at once grasp the logic of the argument and refuses to give all the time the physician may require.

From the patient a complete history is secured and this later dictated from notes to a medical stenographer to be transcribed on the typewriter. Routinely a complete urine analysis and a Wassermann test, in many cases both of the blood and spinal fluid, are made as soon as the patient is admitted. A complete physical examination follows. Should anything in the history or in the examination suggest the possibility of a chest lesion, a pair of stereoscopic plates are made of the thorax.

In carrying out the idea of the "grouped diagnosis," a fundamental principle in the fixed staff idea, the patient passes from the clinician to the pathologist, from the pathologist to the roentgenologist, to the laryngologist and to the surgeon until all data which may be of value have been obtained and recorded on the original history and the final diagnosis made. Though the grouped diagnosis scheme is old, it finds its fullest application only in the hospital so organized that experts, in the various fields of medicine, work in constant cooperation to the end that their researches in the individual case when summed up and coordinated will result in as accurate a diagnosis as can possibly be rendered. This plan has reached its highest development in the Mayo Clinic and the methods of organization and case study in use there may well be copied by any hospital, particularly the one organized along the lines of the permanent resident staff.

Created as a philanthropy the methods followed in dispensing charity at the Geisinger

Memorial Hospital are unique, I believe, in hospital annals. On the discharge of every patient a bill, as near as possible in keeping with his means, is rendered, but enclosed with it is a notice stating that the holder has the privilege of discussing his account with a committee which meets at the hospital two evenings each month. Nearly every ward patient avails himself of this opportunity and appears at the stated time, bill in hand. He then meets a committee, at present consisting of a lawyer, the cashier of a local National Bank and the superintendent of one of the local rolling mills. The hospital's superintendent is present to furnish such information as to the extent of the treatment, seriousness and magnitude of operation, etc.

A frank statement from the patient, which is, of course, treated confidentially, is solicited and usually is willingly given. In 90 per cent. of the cases some member of the committee will know the individual or at least will have certain knowledge of his individual resources. A large group is thus disposed of at each meeting in a manner satisfactory to the patient, honorable to the hospital and in such a manner as to preclude imposing a hardship on a worthy patient, and at the same time rendering it impossible for unfair advantage to be taken of the institution's benevolence.

Many a patient of limited means, who is unable to pay the bill in full, offers, at the dictates of his pride, to pay in part, or even all if given time, and to these a reduced bill is given or the patient pays in part and gives his note without interest for the balance. Thus in its first three years the hospital returned to patients of our community whose individual financial resources had been carefully investigated, cancelled or reduced bills amounting to $57,704.

Always with the paramount thought in mind, that the institution was primarily created for the needy and with ample ward space for all whose means render it necessary that they seek free treatment, the hospital is attracting a rapidly increasing number of pay patients, so that at present receipts from these cases average over $5,000 per month. All receipts, whatever the source, go directly into the hospital's treasury, the staff receiving no fees, but being compensated on a strict salary basis.

Many of the antiquated methods employed in American hospitals a century ago, archaic to the last degree, are still in vogue in many institutions and are preserved as cherished traditions. The desirability of their change or complete elimination is obvious to the up-to-date hospital administrator, yet any suggestion to that effect usually precipitates a riot. The researches of the American Medical Association, the American Hospital Association and the hospital section of the American College of Surgeons on hospital standardization give great promise of presently relieving many of the ancient ills to which many hospitals have so long been heir.

CONCLUSIONS

1. Although by no means the only practical method, yet the trained, resident, salaried staff scheme of organization, particularly as applied to the hospital of moderate size, may be made immensely successful.

2. Such a plan is incomparably the best for the rural hospital, especially if a visiting staff of competent and experienced physicians and surgeons can not be secured in the community.

3. In such a hospital success will depend on certain fundamental principles: (*a*) A clearly defined need for a hospital in the community. (*b*) The construction of an adequate and well-equipped institution. (*c*) A sound financial basis. (*d*) The organization of an active, capable board of trustees, composed of not over seven men, all experienced in large affairs and accustomed to the practice of broad, scientific, business-like methods. For such a board to be effective there should be no incumbering list of unnecessary rules and regulations, multiplicity of committees or any such obstructing camouflage. (*e*) A competent and efficient administrator who sees to the maintenance of high standards in the staff. (*f*) A comprehensive sensible policy, giving the hospital's executive full authority and responsibility in which he has the complete support of the trustees.

ESSENTIAL HYPERTENSION *

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The cause of hypertension is still an open question, in spite of the considerable amount of attention at present focused on it. We know that increased blood pressure is associated with nephritis. Whether the retention of products ordinarily excreted in the urine or whether some concomitant metabolic disturbance, such as an excess of suprarenal secretion, is responsible for the phenomenon of nephritic hypertension, has not been definitely determined. It must be recognized that we are in possession only of an absolutely empirical fact, namely, that nephritis and hypertension are prone to occur in association.

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* Read by Dr. Louis Hamman, Baltimore, before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

There is, however, one large class of patients with an increased blood pressure, unassociated, at least in the early stages of this condition, with lesions in the kidney, heart, blood vessels or elsewhere.

Many physicians are still reluctant to admit the fact that hypertension does not necessarily signalize the presence of a nephritis, and to them an increased blood pressure is synonymous with Bright's disease. Clifford Allbutt for some years has championed the view that there exists a distinct malady characterized only by hypertension. He has called this disease hyperpiesis. Others have designated this condition in various ways. Mahomed thought of it as the prealbuminuric stage of Bright's disease; von Basch, as latent arteriosclerosis; Haschard, as presclerosis, and Janeway called it primary hypertensive cardiovascular disease.

Most of these names are in reality definitions of the disease as it presents itself in its more advanced stages. They overlook the fact that in its inception it consists of hypertension and hypertension only, without cardiac, renal or arterial involvement. These lesions are prone to develop in the course of the malady and force the patient to seek medical advice, and hence may assume undue prominence, although they are purely secondary manifestations. The disease picture, in the initial stages, is one solely of hypertension of unknown etiology. In many cases, when first seen, there are absolutely no accompanying symptoms. Its discovery may be a purely accidental one in the course of a routine physical examination or life insurance test. From this it may be concluded that increased blood pressure is not in itself necessarily associated with any subjective or objective symptoms. The most appropriate term for this condition, concerning the etiology of which we are ignorant, may be the one which serves as the title for this article, "Essential Hypertension."

Volhardt and Fahr, in order to contrast this type of increased blood pressure with that secondary to Bright's disease, have designated it as "benign essential hypertension." This limitation is somewhat misleading. It is true that myocardial insufficiency occurring as the result of prolonged hypertension is peculiarly responsive to treatment and may be regarded as of benign nature, when we compare these results with those obtained in cases of insufficient heart action accompanying valvular disease. However, as Janeway has pointed out, very many of these patients succumb within four or five years from the time of the appearance of their first symptom. It is misleading, to say the least, to call such a disease benign, even if in some instances the condition may persist for twenty years or more and the cause of exitus be old age.

It is very much to the credit of clinical observers, such as Mahomed and Allbutt, to have been sufficiently astute to recognize essential hypertension as a disease entity as much as ten or more years ago. The sphygmomanometers of that day were of poor quality and not in general use, as at present, and there were no reliable tests for renal function available. Today, with both of these diagnostic aids at our disposal, there is no difficulty in making the diagnosis. When an increased blood pressure is found and when the procedures by which the kidney efficiency is measured indicate little or no impairment of renal function, it may be regarded as certain that we are dealing with a case of essential hypertension.

There is no symptom in the realm of clinical medicine more difficult to interpret than the presence in the urine of a few casts and a trace of albumin. These may be of the greatest significance as indications of a most advanced type of contracted kidney, or they may be found during the initial steps of such a process. It cannot be too strongly emphasized that it is only by renal functional tests that these stages of primary contracted or arteriosclerotic kidneys can be differentiated. This is important for the thorough understanding of the relation of the kidney to essential hypertension.

Essential hypertension, as its synonyms, "latent arteriosclerosis" and "presclerosis," indicate, results in most instances in arterial degeneration. The incessant strain to which the arterial tree is subjected necessarily entails such a change. In nearly every instance there is at least some damage to the smaller renal vessels. This may be almost negligible, as many authors report, and as I have witnessed in several instances in the autopsy room of the Johns Hopkins Hospital. However, in my experience, the changes were sufficient to result in the production of the conventional trace of albumin and few hyaline casts. In none of these cases was death caused by renal insufficiency. The tests for kidney function had shown at least 75 per cent. of normal function during life, and under such conditions, death due to retention of urinary excretory products is clearly impossible.

On the other hand, it must be recognized that the arterial lesions in the kidney may progress at a very rapid rate, so that, as in one case I have previously reported, the kidney efficiency may be reduced from normal to a condition of maximal impairment within a year. The outlook for such patients is particularly poor. Janeway noted in his series that when the symptoms of uremia had once manifested themselves, a particularly rapid termination of life might be expected. In making the diagnosis of uremia, a very common error is to attribute to renal insufficiency the symptoms actually brought about by cerebral arteriosclerosis and its secondary changes, i. e., small hemorrhages and areas of softening in the brain tissue. The older articles on uremia contain many case histories which are undoubtedly instances of cerebral arteriosclerosis. Here again, without tests of renal function to guide us, we cannot be certain of our diagnostic ground.

Arteriosclerotic changes occurring as secondary phenomena in essential hypertension may be found in any part of the body. Only when they involve vital organs do they cause death. They are particularly to be sought for in the kidneys (as indicated in the two previous paragraphs), the brain and the heart.

How cerebral involvement may simulate uremia has been briefly discussed. There is another class of cases that deserves mention in this connection, namely, those typified by apoplectic attacks, which frequently occur in rather young individuals and are often dismissed under a snap-diagnosis of syphilis. This means that some of these patients are needlessly subjected to the strain of prolonged salvarsan and mercury therapy. It should be distinctly understood that the diagnosis of cerebral hemorrhage, due to causes other than those associated with lues, is to be made only after an exhaustive use of all the modern laboratory methods, but that an *a priori* diagnosis of syphilis, as is so often made in these cases, is entirely unwarranted. Cerebral arteriosclerosis and hemorrhage as the result of essential hypertension frequently occur in comparatively young individuals. The rule of attributing to syphilis the cerebral accidents taking place in patients who have not attained the age at which senile arteriosclerosis is to be regarded as the probable etiologic factor, is a very pernicious one to follow and is far from correct.

Changes that occur in the cerebral vessels are frequently found when there is no arteriosclerosis demonstrable in any of the peripheral arteries of the renal vessels or of the heart. The high blood pressure may be the only guide to the possibility of damaged blood vessels in the brain. In the majority of instances the combination of cerebral disturbance with high blood pressure permits of this diagnosis. However, as already pointed out, uremia must be carefully considered, as well as the possibility of brain tumor and cerebral syphilis.

Inasmuch as it is definitely known that there are many patients suffering with essential hypertension who exhibit no symptoms whatsoever, it is tempting to assume that many of the early slight complaints, such as vertigo, headache, etc., so characteristic of this disease, may be due to damage to the brain tissue attendant on lesions in the cerebral arteries. As is well known, from cases that have been followed to the autopsy table, the headache and even palsies may be transient, although their anatomical basis can be demonstrated in small areas of cerebral softening or hemorrhages of slight extent. While such symptoms are usually the forerunners of rapid progress of the disease, this is not always the case, and judgment should not be formulated too hastily. Eleven years ago I saw a woman with a systolic blood pressure of 190 and suffering with transient aphasia, who has been very well and active since that day. Another patient, afflicted with convulsions and severe headaches, incorrectly diagnosed as uremic manifestations, subsequently worked hard for a period of four years before he finally succumbed. The autopsy gave evidence of marked cerebral arteriosclerosis but of no other notable lesions.

It is almost self-evident that the heart should dilate and become insufficient because of the mechanical stress which the increased blood pressure puts on it. It has been previously mentioned that these cardiac disturbances are particularly amenable to treatment. In dealing with them it should be borne in mind that hypertension is not a contraindication to the liberal use of digitalis. This drug will not increase the blood pressure, and here, as in most cases of myocardial insufficiency, it is the most reliable medication that can be resorted to. Arteriosclerotic changes in the coronary vessels may result in myocardial degeneration, entailing the appearance of arrhythmias, and, in many cases, angina pectoris.

The effective treatment of essential hypertension may be summarized in one word: prophylaxis. In early cases, very satisfactory results have been recorded; in the more advanced stages, therapeutic effort is usually not crowned with the same degree of success. Inasmuch as our knowledge concerning the cause of increased blood pressure is decidedly deficient, we have only empirical ground to stand on. From clinical observations it is now certain that rest, both mental and physical, especially the former, constitutes the main element of successful treatment. Drugs may lower blood pressure temporarily, but it is doubtful if they are of much value. The widely accepted idea that protein foods, especially meats, are responsible for hypertension has not stood the test of fact. At present, it would seem that a diet regulated more in regard to quantity than quality, so that there will not be a distended stomach to interfere with the efficiency of the heart, and that obesity may be forestalled or diminished, accomplishes as great results as are possible through food control. Symptoms must be treated, of course, as they arise.

Essential hypertension is thus one of the diseases that demonstrate admirably the value of prophylactic yearly examinations for apparently normal individuals. The malady, beginning insidiously as it does, will be detected in its early stages only by apparently uncalled for routine examinations. If the patient heeds the handwriting on the wall and follows the hygienic instructions given him, he may often prolong his life to a considerable degree.

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DISCUSSION

Dr. Ross V. Patterson, Philadelphia: Every practitioner of medicine is familiar with those patients who, on investigation, evidence the symptoms and signs of renal degeneration, arterial sclerosis, and cardiac hypertrophy, with arterial hypertension as an obtrusive and concomitant phenomenon. Such individuals are common enough in the experience of all of us. In the vast majority of those exhibiting this group of pathologic conditions, the primary process originated in the kidneys; the arterial and cardiac changes are accompanying secondary results; hypertension is almost invariably associated. There is, I believe, no better established fact in clinical medicine than the relation existing between these various conditions. We should remember that hypertension in these cases is essentially dependent on two factors, increased peripheral resistance and increased power of the heart, and that, late in the course, with a failing heart, the blood pressure may fall to even subnormal ranges. This constitutes the only practical exception to the statement that hypertension is an invariable accompaniment of this trifold complex of pathologic changes in kidneys, arteries, and heart. In the vast majority of cases the explanation of hypertension as a symptom is to be found in this association.

The paper which has just been presented, however, calls attention to an important, but much smaller group of cases of hypertension in which, so far as has been determined, the primary, and, for a time, perhaps, the sole pathologic change, consists of a high blood pressure. The etiology is obscure. Early there are no renal changes. Some of them may be nervous in origin. In others some metabolic derangement or vice (an obscure toxemia causing spasm of the arteries, either directly or through the intervention of the vasomotor mechanism) may account for its production.

I have most frequently seen essential hypertension in hard working business men near 50 years of age, in whose lives nervous stress and strain have been severe and prolonged. They are apt to be of a particularly robust, stocky build, with thick necks and ruddy complexions. As a rule they have good digestions, and are much given to the pleasures of the table, late hours, and alcoholic indulgences, without great excesses. Often they have never had an illness since childhood. Early in the course of these cases, renal tests indicate little, if any, impairment of renal function. The chief finding, whatever the cause may be, is a high blood pressure. Later, as a secondary change, there occur fibroid thickening of the arteries, hypertrophy of the heart, and some evidences of sclerosis of the kidneys. The renal changes differ from those of the first group of cases of hypertension to which brief reference was first made, in being of much less marked degree, in bearing a secondary relation to the hypertension instead of a primary one, and in an infrequent occurrence of uremic manifestations, common enough in the first group.

Essential hypertension differs from the first group, therefore, in its relation to renal sclerosis and its etiology. It differs, also, in important considerations affecting the diagnosis, course, prognosis and treatment.

The differential diagnosis between these two groups chiefly depends on the presence or absence of findings indicating extensive impairment of renal function. If impairment of renal function can be excluded, the essential nature of the hypertension is suggested, although the dangers of a diagnosis by exclusion are evident. General considerations should be taken into account. The outlook is much more hopeful in the group in which the hypertension is the primary change. Recorded cases of chronic nephritis running a course of ten or a dozen years, or even longer, probably belong to the group of primary hypertension with secondary renal and cardiac changes of moderate degree and slow development. The response to treatment is much more satisfactory. Relief from nervous stress may bring prompt improvement. The vasodilators and arterial antispasmodics are much more effective. In fact, I believe a marked response to the administration of nitroglycerin or its congeners is of diagnostic significance in indicating essential nature of a hypertension.

Essential hypertension accounts, therefore, for a small number of cases of high blood tension. After the condition has continued for some time, it presents associated arterial, cardiac and renal changes similar to those seen in ordinary cardiorenal disease with arterial changes, but these changes are of less marked degree. Essential hypertension is more responsive to treatment, and offers a much more hopeful outlook. It should be distinguished from the more common cause of hypertension whenever this is possible. A distinction is chiefly dependent on renal functional tests.

Dr. James M. Anders, Philadelphia: The subject of essential hypertension discussed in Dr. Mosenthal's paper is really one of great interest and importance. It is important because of the fact already emphasized that, as a rule, these cases terminate in serious cerebral, arterial, cardiac and renal developments. And that very fact, which so far as my experience goes has been almost universal, should make us very cautious and reserved in classifying this condition as a separate disease entity. For clinical reasons it is well to recognize this condition. It is not an uncommon one, and yet in my experience not by any means as frequent as certain writers would have us believe. Clinicians have been too prone, in my view, to make the diagnosis of essential hypertension. They have apparently failed to exclude the cases for which some cause of hypertension could have been found if the investigation had been sufficiently thorough and painstaking. It has not been the custom, I am certain, for clinicians to make the tests for renal function before arriving at a diagnosis; and yet I am quite sure, as has already been emphasized again and again, that we are unjustified in making a diagnosis without resorting to this crucial test. I am certain from my personal experience that if these tests were uniformly made and interfering conditions excluded so far as possible, the number of cases of essential hypertension would rapidly grow decidedly less; because I have found, as doubtless others have, that in cases of apparent essential hypertension these tests revealed the fact that already insidious developments were taking place in the kidney structure and therefore could not be regarded as cases of essential hypertension.

I have for a number of years felt that it is decidedly wrong to regard cases of persistent hypertension occurring in middle aged men, such as those to whom Dr. Patterson has referred (men in active business, who work hard, are given to the pleasures of the table, to excesses in the use of alcohol and of tobacco), as belonging to this clinical group. There are many of these cases which, according to my experience, yield to treatment, to prolonged rest, to relaxation, and especially to the correction of the habits of the patient with regard to eating, drinking and smoking. They yield to an extent never seen by me in cases of true or essential hypertension. Essential hypertension does not yield readily to any form of treatment, once the condition is a confirmed one. Overactivity of the adrenals has been assigned as a cause of this essential hypertension, but this conclusion needs further confirmation. In concluding, I feel strongly that this is a rare condition if due care and caution are taken to exclude all toxic and other causes of the usual forms of hypertension.

Dr. Francis Ashley Faught, Philadelphia: I am a champion of the cause of hypertension. It is my firm opinion not only from my own experience, but from that of others, that the renal function test that has been brought into this discussion has very little value. As a matter of fact, the renal function test does not differentiate between a temporary congestion of the kidney and chronic kidney disease. Therefore, it is absolutely useless in the study of a condition of this kind, the borderline between health and disease. I think we will all admit the possibility of conditions within the body, metabolic, or toxic, affecting the vasomotor system. Those same things affect the respiratory centers and the temperature regulating mechanism. Therefore it seems logical to conclude that a condition of hypertension, which means an increased tonicity of the vascular walls, can exist as an entity and I believe that it does exist as a temporary condition, incident to some change within the body of a metabolic or toxic origin; and that also if measures are directed toward correcting this condition sufficiently early, it can be arrested permanently and without a trace of later disease. I have seen cases in which apparently the only symptom was an elevated blood pressure, or hypertension, so-called. I have seen tonsils cleaned up; mouths cleaned up; nothing else done, and the pressure returned to normal. I want to state emphatically my belief that cases of essential arterial hypertension (if you wish to so call them) do exist, have an underlying cause, that the cause is toxic, and that if such cases do not persist too long as a temporary condition, they are amenable to relief and cure.

Dr. Louis Hamman, Baltimore, Md.: It is a little embarrassing for me to close this discussion in the place of Dr. Mosenthal. Although I am familiar with his views I cannot speak for him but must be responsible for my statements. To my mind, the chief reason for distinguishing between essential hypertension and hypertension associated with renal disease is the prognostic implication in the distinction. The prognosis is much graver when the hypertension is associated with renal disease than in essential hypertension, even though occasionally essential hypertension runs a rapidly fatal course. However, it is not always easy to distinguish the two conditions and what may appear at the first examination to be an essential hypertension may subsequently turn out to be hypertension secondary to a chronic diffuse nephritis. In making the distinction, renal function tests, particularly when repeated at intervals, are of the very greatest value. It is true, as Dr. Faught has indicated, that chronic passive congestion impairs renal function just as true renal disease does, but there is seldom difficulty in distinguishing these two conditions except in terminal stages of the disease.

It is worth emphasizing again that essential hypertension is often a relatively benign condition unaccompanied by symptoms. Physicians are too ready to alarm patients when the blood pressure is found accidentally to be elevated. Hypertension is compatible with decades of useful occupation and enjoyable existence. Physicians are too ready, also, to ascribe every symptom complained of to an existing hypertension. Dr. Faught has spoken of patients who have lost their hypertension after the removal of infected tonsils or of other foci of infection. It would be very instructive to have full records of many such cases, emphasizing particularly the duration of the hypertension before the operation and the length of time after operation it fails to reappear. Many patients have transient hypertension for a number of years before they finally develop permanent hypertension. Unfortunately, the removal of tonsils or the clearing up of other foci of infection does not always relieve hypertension even in the early stages.

We have accumulated much information about hypertension but our information applies almost exclusively to the late stages of the disease. We need more information about the early stages. Here is one of the many problems we must look to the general practitioner to solve. If records be kept, for instance, of the blood pressure of patients, taken at intervals, even though irregular, over a period of many years, how valuable such records might soon become. We might then discover in a given instance when and how hypertension began, its early variations, its possible disappearance, or final permanent establishment. Such records would be of fundamental importance to a proper understanding of the condition.

SOME DRUG ERUPTIONS *

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It may be said at once that I have nothing new to present on the subject of drug eruptions, therefore, much of what is said in this brief paper has been said before and perhaps better said. My only purpose is to call attention anew to a much neglected and important group of diseases which are very common, frequently give rise to difficulties in diagnosis and occasionally produce severe and, in rare instances, even grave symptoms. Nor shall I discuss any considerable number of these eruptions, but shall present only a few examples of some of the less well known and more striking which are produced by some of the drugs in common use.

By drug eruptions or better, drug dermatoses, since not all the pathologic changes produced in the skin by drugs are of an eruptive character, we designate such affections as are produced by the ingestion of drugs, or exceptionally by their absorption through the skin and mucous membranes; those arising by contact are therefore excluded from this category.

A very large number of the drugs employed in medicine under appropriate conditions may give rise to more or less pronounced and visible pathologic alterations of the skin; indeed, it is scarcely an exaggeration to say that practically every drug in the Pharmacopeia, and a good many outside it, may in one individual or another produce such alterations. But, while drug eruptions are for this reason very frequent, only a comparatively small number affect all or even the majority of individuals.

There is an extraordinarily wide variation both in individual susceptibility and in the frequency and character of these eruptions. Certain drugs, such as the salts of iodin and bromin, practically affect the skin of every individual to a greater or less degree; certain others, of which the hypnotics, more especially some of those more recently introduced, may be taken as examples, only occasionally and in certain subjects do so, while the members of a third group only rarely cause eruptions. Again in many instances the eruption follows a few doses or it may be only a single one; on the other hand it may appear only after a considerable quantity of the drug has been taken. As already observed, there is a wide diversity in the character of drug dermatoses. In the great majority of instances these are of an eruptive character and for the most part inflammatory and erythematous in type, but there are many exceptions to this rule. They may appear as hemorrhages, as alterations in pigmentation, as disturbances of the process of keratinization, and as sensory disturbances. While most of them are transient, disappearing with the withdrawal of the offending drug, others may persist for a considerable period or even indefinitely. Nor does the same drug always give rise to the same dermatosis, but its effect frequently varies greatly, principally according to individual peculiarity, but likewise according to the presence or abscence of certain other elements, such as the presence of disease, functional or organic, of the circulatory or nervous systems or of the viscera.

As illustrating this variability reference may be made to the eruptions produced by the iodids. In practically every individual their administration is followed sooner or later by an acneform eruption with which all are familiar and which, therefore, needs no description; but in certain cases, fortunately rare, quite other and at times serious forms of eruption may be produced. Very exceptionally they produce a widespread purpuric eruption which unlike the usual pustular one, disappears after some days even when the administration of the drug is continued. In rare cases a vesicular eruption accompanied by the most violent itching may follow even small doses, as in an elderly woman under my care some years ago. She was given moderate doses of potassium iodid and after the third or fourth dose an abundant eruption of small vesicles appeared on the palms, to which it remained limited, associated with itching so severe that its administration had to be suspended; on its resumption a few days later the eruption promptly reappeared.

Equally rare and far more serious are the eruptions described by Sir Jonathan Hutchinson, Morrow and Taylor. In Hutchinson's case

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

large fungoid tumors, some of which ulcerated, were present on the face and trunk, while the the cases of Morrow and Taylor were characterized by extensive and widely distributed bullae. As the eruption in some of these cases was regarded as syphilitic the iodid was given in increasing quantity and with the most serious consequences. It is worthy of note that in most of these cases the patients were the subjects of cardiac and renal disease so that elimination was seriously impaired, and there is great probability that this contributed largely to the grave character assumed by the eruptions. It seems hardly necessary to point out the very great importance of being able to recognize the real nature of such cases since the most disastrous consequences, even death, may follow the continuance of the drug.

In the great majority of instances the iodic eruptions are the result of the administration of the iodids of potassium and sodium, but similar effects may follow other iodids, such as the iodid of iron, which are not commonly thought of as possible causes of such eruptions. A few years ago Goodall exhibited before the Dermatological Section of the Royal Medical Society a case of iodid eruption resembling closely variola, which had followed three doses of ferrous iodid. It should be noted that the patient was suffering from a chronic nephritis.

While these eruptions are almost without exception produced by the internal administration of some one of the iodids, they may in rare instances follow the external application of iodin; and Hodara has observed a generalized iodid acne follow three applications of tincture of iodin to the skin, which was afterwards covered with an impervious covering.

Bromic acne is even more frequent than the iodic form. A few years ago when the bromids were so extensively employed in the treatment of epilepsy the most exaggerated cases were not at all infrequent, the eruption covering the face, back and chest, producing great disfigurement. There is usually no difficulty in recognizing it, every one is familiar with the milder forms; but there is a less well-known type of bromic eruption, seen chiefly in children, characterized by large flat pustules seated on a granulomatous base which frequently coalesce to form plaques often of considerable size, seated on the face and extremities, less frequently on the trunk. Occasionally it is seen in nursing infants who are getting the bromid through the mother's milk. A remarkable example of this kind came under my observation a few years ago in a three weeks old infant, who developed an extensive eruption shortly after birth, although it had taken no drugs; the mother, however, had taken a mixture containing a moderate amount of sodium bromid for some sort of itching affection up to the time of her confinement. Unless this possibility is kept in mind the source and nature of the eruption may escape recognition. The bromids may produce ulcerative lesions resembling syphilitic rupia, a form of eruption to which the late Weir Mitchell called attention. These may at times resemble the syphilitic lesions so closely that even a skilled observer may be deceived, as Mitchell admits he was. I have seen but a single example of this variety, which occurred in an adult male who was in the habit of taking daily a considerable quantity of some proprietary mixture containing a bromid. There were a number of thickly crusted ulcers on the legs which bore a very close resemblance to the ulcers of tertiary syphilis.

Many of the drugs employed as hypnotics produce in many individuals eruptions of various kinds either after a few doses, which is common, or after their repeated or long continued use. Sir Jonathan Hutchinson long ago described a curious form of eruption which he had observed after the administration of chloral. It appeared as discoid patches of erythema, situated on and limited to the backs of the hands, and lasted for two or three weeks. In the case reported it had occurred many times after a single dose of thirty grains. Sulphonal may produce erythematous eruptions of various types, usually after prolonged use, when it may be accompanied by a wine-red discoloration of the urine due to the presence of hematoporphyrin. The more recently introduced veronal in a considerable number of instances causes an erythematous eruption usually morbilliform, less frequently scarlatinoid in appearance, often accompanied by itching which may be of the most distressing character. Quite recently I have seen a marked scarlatinoid eruption follow the use of this hypnotic. The patient was a young married woman who had taken several doses at intervals of some hours. The eruption, which was a brilliant scarlet, covered every part of the skin and was accompanied by extreme itching and burning. The resemblance to scarlatina was considerable and had caused the patient and her physician much alarm.

As is well known opium and its alkaloid, morphin, in many individuals produce more or less decided itching, usually most marked in the face, but often affecting the whole cutaneous surface. It is not so well known, however, that prolonged and a more or less general pruritus may be a symptom of opium addiction. In a case under the author's care some years ago to which reference has been made in another place, a most distressing itching which had made sleep almost impossible for years, defying all methods of treatment, was found to be due to one or two daily doses of opium taken for the control of a chronic diarrhea; with the suspension of the drug the pruritus promptly disappeared.

The scarlatinoid erythema, which occurs with considerable frequency after the administration of belladonna and atropin especially in children, is one of the earliest recognized and best known of the drug eruptions; it derives its importance from the fact that it at times resembles the eruption of scarlatina very closely and may, on that account, lead to serious error in diagnosis. Much emphasis is laid by authors on the presence of dryness of the throat and dilatation of the pupil as diagnostic symptoms, but it should be kept in mind that a dose much too small to produce these may be followed by a marked eruption. While in most instances it follows the taking of the drug by the mouth it may be produced by absorption through the skin, as in a case reported by Knowles a few years ago in which it followed the wearing of a belladonna plaster.

The preparations of arsenic occasionally give rise to eruptions of varying character, some of them of great importance. A good many years ago Sir Jonathan Hutchinson, to whom I have had occasion to refer a number of times in this paper, noted the fact that herpes zoster seems to occur with unusual frequency in those taking arsenic, and he was of the opinion that the drug was responsible for its occurrence. This observation has been confirmed so often since by experienced observers that there no longer seems room for doubt that arsenic may be the direct cause of zoster, a fact which goes far to support the theory that this affection is a neuritis of toxic origin. I have quite recently seen a striking example of arsenical zoster in a middle-aged woman with inveterate psoriasis, who was taking full doses of arsenic trioxid. After taking the drug for ten days she developed an extensive and very painful thoracic zoster.

Equally interesting and even more important is a variety of keratosis occurring in those who have taken arsenic in considerable doses for prolonged periods. This affection is characterized by numerous shot-sized horny elevations resembling small corns situated on the palms and soles. The appearance of these lesions is frequently preceded for a variable period by hyperidrosis in these regions which is at times very profuse. The very great importance of this dermatosis resides in the fact that occasionally epithelioma develops at the site of these keratoses. Some years ago when reporting a case of this kind, I was able to collect from various sources in literature ten cases; and since the publication of that paper a considerable number of similar cases have been reported, so that the list is now considerable. It may be regarded as well established that there is an arsenical cancer of the skin. While this dermatosis is commonly regarded as somewhat rare I am convinced that it is not a very infrequent occurrence. Within the past two or three years I have seen four cases, two of them in men with severe dermatitis herpetiformis who, finding that arsenic controlled the eruption better than any other remedy, had taken Fowler's solution in quite large doses for a year or more, more or less continuously. In two of these four cases other symptoms of chronic arsenical intoxication were present, in one an extensive brownish pigmentation of the trunk, in the other a peripheral neuritis.

As is to be expected from its large arsenic content arsenobenzol, arsphenamin, produces cutaneous eruptions with a fair degree of frequency. These are commonly of an erythematous type, but vary in character considerably. A few months ago I saw a severe generalized dermatitis characterized by a pustular and bullous eruption followed by abundant exfoliation, which had followed two doses of salvarsan. The patient, who was under Dr. Lloyd's care in the ward for nervous diseases in the Philadelphia Hospital, had, in addition to the cutaneous symptoms, marked albuminuria and other evidences of nephritis.

Just a few words concerning diagnosis. As may be inferred from what has already been said considerable difficulty may at times be experienced in the diagnosis of the various eruptions produced by drugs. This is due very largely to the very great variation in the character of the eruptions which may follow the same drug. Very few of the eruptions are sufficiently characteristic to enable one to recognize at once their drug origin. Exceptions are the acneform eruptions of the iodids and bromids; these are usually readily recognized, but the reverse is true of the less common and more serious manifestations which may follow the use of these. The palmar and plantar keratosis produced by arsenic is, so far as I know, quite characteristic of the drug. I know of no other variety of this dermatosis. In the presence of an unusual eruption one should invariably think of the possibility of its drug origin.

Before closing this somewhat discursive paper I wish to call the attention of all those who are interested in scientific medicine to the extraordinary opportunities afforded by drug eruptions for the study of pathologic processes. They may be produced at will, their development followed from hour to hour with the naked eye and their results studied microscopically in tissues unaltered by postmortem change. They offer a field of research which has been barely entered, one which offers rich rewards to those who cultivate it.

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DISCUSSION

Dr. Julius H. Comroe, York: I find that I was correct in the impression I had, when I was very recently invited to discuss this paper, that Dr. Hartzell would leave very little room for the further elaboration of this most interesting, instructive and important topic. I have always been particularly interested to learn just why these eruptions should occur; what the actual *modus operandi* is. We are all familiar with the many theories that have been advanced, and I will not repeat them here. However, we all know that there is a marked idiosyncrasy to many drugs, and, as Dr. Hartzell has just told us, almost any drug in the pharmacopeia may produce an eruption of some kind at some time. At another time, and probably in the same individual, the same drug may not produce the slightest semblance of a rash. An instance has been given to me (by Dr. B. A. Thomas, Philadelphia) today of the administration of 270 grains of potassium iodid, three times a day, in ascending doses, for almost three months without producing the least suggestion of a rash. I know of another case where a patient took only three grains and developed a most intense rash. In most cases of iodic rash, iodin can be found in the lesions of the skin. Dr. John Marshall found in one patient who had taken 280 grains of potassium iodid in one day that there had been eliminated in the urine 180 grains during that period of time. This bears out the point just emphasized by Dr. Hartzell that in those cases where the more severe types of the rash are prevalent, there is often found some faulty condition in the renal or gastro-intestinal tract, or both. This gives us a useful clue as to at least one actual etiologic factor in these cases, and should aid us in prophylactic treatment. It seems to me that if the general practitioner would get away from the older methods of prescribing drugs in certain dogmatic dosage, there would be fewer and less intense eruptions following the employment of pharmaceutical remedies. Unfortunately, an "average" dose is continued week after week, rather carelessly and mechanically, permitting unnecessary accumulation within the system. We know that bromids have been excreted in the urine and saliva, at times, two weeks after the last administration. Therefore, why do we not more frequently, rather than advise routine ascending doses, treat each case as an individual entity, and on the slightest evidence of a rash, either diminish or interrupt the dose. It seems to me, also, that if we would give more attention to the emunctories during the administration of bromids, iodids, etc., in the larger doses, instructing our patients to take more frequent warm baths, that we would be meeting in a better way the prophylactic requirements of the problem under discussion.

Dr. Hartzell, closing: The bromids are eliminated much more slowly than the iodids and the eruptions produced by them may continue for some considerable time after their administration has been suspended. The administration of arsenic with the bromids is said to counteract the tendency to eruptions, and from a somewhat limited experience with it I believe this to be true to some extent.

BLOOD PRESSURE AS A PROGNOSTIC FACTOR*

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The prognostic significance of blood pressure may be viewed from the general standpoint of the influence of abnormal (chiefly abnormally high) pressures on longevity, irrespective of the nature of disease that may be present, or as a prognostic factor in the immediate or remote outcome of acute or chronic disease. At the outset it must be emphasized that, like other signs and symptoms, it has but little value judged as an isolated phenomenon, and must be weighed in combination with all other findings in the particular case. Two general statements are, however, permissible. 1. One is that blood pressure readings are distinctly more useful in long range prognosis than as indications of immediate developments to be expected. 2. It has been definitely shown by statistics that persistent excessive arterial tension, irrespective of the cause or the presence of other pathologic conditions, is incompatible with a normal expectation of life. Statistics bearing on this point are now generally known and need not be repeated here. I may refer to a paper[1] I wrote about a year ago, based on the answers to a questionnaire addressed to the leading life insurance companies, in which the statistics up to that date are summarized.

In order to clear the ground, it may be well to state, in regard to the practical phase of the subject, that, after about ten years of actual experience in blood pressure work by a large number of physicians throughout the world, clinicians, general practitioners, and life insurance examiners, the following principles have found general acceptance:

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

[1] Blood Pressure from the Life Insurance Standpoint, Medical Record, May 12, 1917.

Technic.—The auscultatory method gives the most reliable results in all but a very few cases, and is the only accurate method of taking the diastolic pressure. The exceptional cases referred to are those in which, owing probably to some anatomic abnormality, auscultation of the vascular sounds over the artery below the bend of the elbow is difficult or even impossible, and resort must be had to the palpatory method in taking the systolic pressure. In such cases diastolic readings are never satisfactory.

The diastolic pressure should be read at the point of change from the third to the fourth phase, *i. e.,* at the point where the short, sharp sound changes abruptly to a dull note. On this point there exists difference of opinion, some contending that more constant, if scientifically less accurate, readings are obtained in the long run from large numbers of observers of varying degrees of skill and experience by reading the diastolic pressure at the end of the fourth phase, *i. e.,* the disappearance of all sound. Personally I prefer and use the former method, both because it seems to me that the sudden change in the character of the sound is more readily appreciated than the total but gradual cessation of all sound, and because it has the merit of scientific accuracy. In any event the difference in the readings does not exceed 5 mm.

Aneroid instruments, admittedly the most convenient for general work, give sufficiently accurate results for clinical purposes. As a precautionary measure the instrument may be compared from time to time with a mercurial manometer. It is not too much to say that the introduction of the aneroid sphygmomanometer has been the most important factor in popularizing the taking of blood pressure as a routine clinical procedure.

Blood Pressure Formulas.—The relation between the pulse pressure (the difference between systolic and diastolic pressure) or the ventricular moiety of the total blood pressure, the systolic pressure, and the diastolic pressure is expressed by the formulas:

$$\mathrm{PP} \text{ — } \frac{\mathrm{SP}}{3}$$

and

$$\mathrm{PP} \text{ — } \frac{\mathrm{DP}}{2}$$

These values have been obtained by a number of different observers working independently, the actual figures obtained in the various series of observations showing a remarkable uniformity.

Reference should be made in passing to the work of Goodman and Howell on the auscultatory pressure phases, from which they deduced a method of measuring the cardiac efficiency. They designate the second and third phases as measures of cardiac strength, and the first and fourth as the phases of cardiac weakness. If the cardiac strength factor is greater than the cardiac weakness factor, the myocardium may be regarded as competent, especially if the second phase length equals more than 40 per cent. of the entire pulse pressure length. Their normal formula reads C. S. : C. W. : : 55.4 : 44.4.

Factors Influencing Blood Pressure.—Blood pressure is temporarily increased by the same factors that tend to accelerate the pulse rate: excitement, exercise and, to a limited extent, posture; the values obtained in the standing position being slightly higher than in the sitting or recumbent. Generally speaking, blood pressure statistics are based on values obtained in the sitting posture. The change induced in the pulse pressure by measured exercise is important. Normally an increase is observed; if, after measured exercise, the pulse pressure falls, it is regarded as a sign of cardiac weakness.

Age.—Age has a certain influence on blood pressure in the sense that in middle and advanced life, say after 45, there is a moderate increase in the average normal pressure, both systolic and diastolic, but more in the systolic and, therefore, in the pulse pressure. The increase is not progressive beyond a very limited point.

Sex.—Women have normally a lower blood pressure than men of the same age (approximately 10 mm.), but this difference tends to disappear after the meridian of life has been passed. Women also apparently tolerate continued increased arterial tension better than men.

Weight.—Statistics on the relation between body-weight and blood pressure are not available, and my personal impression is that heavyweights, and even over-weights, are as likely to have normal or low pressures as average individuals. For obvious reasons a high blood pressure is regarded as a more serious prognostic sign in the obese.

Normal Blood Pressure.—Having gained the impression during the routine work of reviewing a number of reports daily, which include blood pressure observations, that the figures for all ages, and especially for middle-aged and elderly individuals, were running unexpectedly low, I decided to verify what was merely an impression by actual figures and, through the kind cooperation of the Actuarial Department of the Provident Life and Trust Company, was able to obtain the average systolic blood pressure of 10,000 (9,996) individuals accepted for life insurance during the current year (1918). The results are given in the following table, to which, for the purpose of comparison, have been added the average figures for the corresponding age-groups calculated according to three generally accepted methods, those of Faught, Fisher and Rogers. It should be said with regard to the periods corresponding to middle and advanced age (speaking from the life insurance standpoint) that they include very few individuals with systolic pressures over 145 mm., for while such a blood pressure is not counted as an impairment in itself, as a matter of experience individuals with pressures in excess of 150, or even 145 mm., usually have to be rejected for some other cause. This statement, however, does not apply to that certain well known group, to which I shall refer again later, who exhibit high arterial tension without other signs or symptoms of any abnormal condition which would explain the excessive blood pressure.

AVERAGE SYSTOLIC BLOOD PRESSURES FOR FIVE-YEAR AGE GROUPS

Taken from 9,996 Cases Issued by the Provident Life and Trust Company During 1918

Ages	Number of Cases	Systolic Pressure in Mm.		Faught	Fisher	Rogers
		Average	Increase			
22	1,184	119.5	...	120.0	120.0	120.0
23–27	1,385	120.8	1.6	122.5	122.4	121.5
28–32	2,034	122.4	0.2			
33–37	2,080	122.6	1.6	127.5	124.8	123.5
38–42	1,507	124.2	1.6			
43–47	923	125.8	2.8	131.5	128.8	128.0
48–52	537	128.6	0.8			
53–57	231	129.4	3.4	137.5	132.6	132.0
58–62	88	132.8	...	140.0	134.3	134.0
63 and over	27	136.0	...	141.5	136.0	135.0
All ages	9,996	123.1	...	131.9	128.1	128.3
Middle age:						
43–57	1,691	127.9	...	135.1	130.9	130.0

Average increase, five years: 1.7
Average increase, one year: 0.34

It appears from the table that the averages obtained in this series are several points lower than those shown in the parallel columns. The difference is especially marked in the period from 43 to 57, which may be taken, roughly, as the period of middle life, when blood pressure readings have the greatest practical importance. The figures obtained according to Faught's rule show the greatest divergence. Faught, it will be remembered, takes 120 mm. as the average pressure for a man of 20 and adds 0.5 mm. for each year of life. The average increase in pressure for each year of life, computed according to the table, comes to only 0.34 mm. or approximately one-third of a millimeter instead of 0.5 mm. The increase appears to be greatest between the last two five-year periods, between 53 and 62, which is in accord with common experience. The two figures, 123.1 mm. obtained for the average at all ages and 127.9 mm. for individuals of middle age, give the impression of being unexpectedly low. The thought suggests itself whether the general reduction in the scale of living brought about by war conditions, particularly in the matter of eating and the use of alcohol, may not have had its influence on the averages obtained in this series.

Diastolic Pressure.—Statistics on diastolic pressure are very meager. Unfortunately, they could not be included in the table given above. It is generally held that the diastolic pressure is more constant, and particularly that it is less influenced by nervous excitement, than the systolic. The range of normal diastolic pressure may be given as 65 to 105 mm.

Hypertension.—Increased arterial tension occurs in the acute infections as a temporary phenomenon in association with hyperpyrexia and acceleration of the pulse rate, but cannot be said to have a definite prognostic significance. In lobar pneumonia high blood pressure is by some regarded as a favorable prognostic sign. The rise in blood pressure accompanying cerebral hemorrhage, as opposed to hemorrhage at other points, deserves passing mention, but more as a diagnostic sign than for any practical value in prognosis.

It is in chronic disease that blood pressure observations have the greatest value. We are, I think, all agreed that when an individual presents a persistent high arterial tension, one of the following conditions, in the order of frequency and probability, is present: (1) Chronic nephritis, probably of the interstitial type; (2) aortic disease—regurgitation if the pulse pressure as well as the systolic is increased (and the diastolic correspondingly depressed); aortitis or stenosis, depending on the accompanying physical signs; (3) general arteriosclerosis; (4) gout; (5) syphilis; (6) autointoxication, so-called, presumably intoxication through the absorption of abnormal metabolic products other than those due to disturbed renal function.

When a high blood pressure reading is obtained in the course of routine examination of an individual who does not complain of feeling ill and who presents no other signs of disease, it is these things that we think of. As the high blood pressure is so often the only abnormality found, it has all the more significance as a prognostic factor in the estimation of the ultimate outcome and the probable duration of life. The differential diagnosis of the conditions enumerated is, of course, readily made in most cases by associated signs and symptoms, but the physician's attention in many cases is first aroused, and the right direction given to his diagnostic thought by discovering the abnormal blood pressure. As a concrete example, aortic insufficiency may be detected before the appearance of the characteristic murmur, marked hypertrophy, and Corrigan pulse, when along with a high systolic pressure the pulse pressure is found to be abnormally large on account of a low diastolic figure. I once had the opportunity of studying such a case during the early stage of the disease and, through the courtesy of a colleague, following it up to the fatal termination eighteen months later. Early diagnosis, of course, tends to accuracy in prognosis.

In the case of Bright's disease it must be remembered that the hypertrophy and high tension are compensatory phenomena and must be judged accordingly in the prognosis. Here the study of the blood pressure formula is important. Nephritics should have a higher pulse pressure than normal individuals in order to maintain compensation. Both systolic and diastolic pressure are increased, but the increase of systolic pressure is relatively greater. As the two readings approach each other by a reduction of the systolic pressure, with a consequent diminution of the pulse pressure, the outlook becomes darker, and myocardial failure is foreshadowed. Both men and women, and particularly the latter, often show a surprising tolerance of sustained high arterial tension in Bright's disease, and too much reliance must not be placed on the sign for immediate prognosis. In those cases, on the other hand, in which the blood pressure remains normal throughout or even below the average, the prognosis is not thereby necessarily improved.

The cases in which the greatest difficulty is encountered in the interpretation of high blood pressure findings are those which I have grouped under the head of autointoxication. Is there such a thing as "simple" hypertension not dependent on arterial and renal changes? We all have cases of this kind coming to our offices, and they are a perpetual source of perplexity to the medical staff in all life insurance companies. When no cause for the hypertension can be found in circulatory or renal system, when there is no suspicion of gout, no changes in the accessible arteries detected by the palpating finger, when syphilis has been apparently ruled out and there is no history of metallic poisoning, we take refuge in the theory of an autointoxication, an absorption, through the alimentary canal, presumably, of poisons which are believed to act in a manner similar to the poisons that we know tend to raise the blood pressure and favor the production of fibrous tissue. Unfortunately the diagnosis must always remain tentative, and the prognostic value to be assigned to the high tension, therefore, problematical. Of course, most of the patients, originally classified in this way, eventually show definite signs of kidney or other disease which explains the high tension and clears up the diagnosis, but enough remain, nevertheless, to make up an important group. In the absence of more definite knowledge on this vexed question I believe the only safe course to pursue is to regard these cases as cases of either interstitial nephritis or of simple arteriosclerosis, "prearteriosclerotics." A physical sign which is likely to be either overlooked or estimated too lightly, and which sometimes assists in the explanation of these cases, is the short but rough systolic murmur at the aortic valve, heard only when the lungs are emptied and the breathing suspended. While a murmur of this type is probably of no importance in a young and otherwise normal individual, when it is observed in middle-aged and elderly patients, it strongly suggests aortitis with dilatation of the vessel, and if, in addition, the blood pressure is elevated, the diagnosis is practically established. The occurrence of this murmur in subjects of syphilitic aortitis is, of course, well known.

In young individuals an otherwise unexplained high tension should always suggest the possibility of syphilis and lead to thorough serologic examination.

Riesman, in an interesting paper published in 1913, discusses a group of hypertension cases under the caption "High Pressure Hypertrophy," differentiating them from the ordinary type of arteriosclerosis with cardiac hypertrophy and high tension. It is an affection of middle-age, observed in robust, well-developed or even obese subjects of both sexes, characterized by a variety of subjective symptoms, gastric distention, vertigo, tinnitus, tingling of the extremities, but without obvious hardening of the arteries or urinary changes. He also mentions, however, the occurrence of a systolic murmur at the aortic area without concomitant signs of aortic stenosis in some of the cases, and states that such a murmur indicates sclerosis in the arch of the aorta. With this view I am fully in accord, as I have already stated, and I should be inclined to classify the cases he describes as "simple arteriosclerosis" or "prearteriosclerosis." We also hear of "essential hypertension," but no satisfactory etiologic explanation of this type of hypertension without cardiovascular or renal basis is as yet forthcoming. It is, however, a genuine clinical entity which the physician is frequently called on to treat.

Diastolic Pressure.—I have but little to add to what has already been said under this head. As our experience grows, we are impressed by the greater constancy of diastolic pressure readings as compared with systolic, and in borderline cases repeated observations of the diastolic pressure are of distinct value in determining the prognosis. The diagnostic significance of a much depressed diastolic tension associated with high systolic pressure and hypertrophy has been mentioned above. It is especially important to take the diastolic reading in middle-aged subjects with normal or subnormal systolic pressures. For instance, a man of fifty presents a systolic pressure of 135 mm. and is passed as normal, whereas, if the diastolic reading were taken, it would be found, say 105 mm., instead of 85 to 90 mm. as it should be normally. This would give a pulse pressure of 30 mm., or only 22 per cent. of the systolic, instead of 30 to 35 per cent., which is indicative of myocarditis and cardiac insufficiency. Grave errors in prognosis may result from neglect of this precaution, as I have occasionally observed. It is not so much the actual diastolic pressure that counts, as the relation between the two pressures, or, in other words, the pulse pressure. Too much emphasis cannot be placed on this point. Incidentally it should be remembered that in the compensatory hypertrophy of chronic nephritis the pulse pressure is higher than under normal conditions, a point of importance in relation to treatment.

Low Blood Pressure. — The comparative paucity of medical writings on the subject of low blood pressure is possibly owing as much to the preoccupation of clinicians with the more fruitful subject of high arterial tension as to the lesser importance of hypotension. The fact is, at any rate, that but little attention has been given to the subject, at least in its relation to chronic disease. First, as to what may be regarded as a low blood pressure, it is, I think, generally held that a systolic below 90 mm. (in adults) and a diastolic pressure below 60 mm. are to be regarded as below normal. To quote Fisher's conclusions from life insurance statistics, "persons with a systolic pressure between 90 and 110 mm. Hg show a more favorable mortality than persons with a pressure 12 mm. above the average pressure of the age." My own impression is that, in apparently healthy individuals, a low blood pressure, that is, a systolic pressure below 100 mm., is of no prognostic significance except so far as it may be considered as equivalent to a normal pressure. The same thing does not, however, apply to the diastolic pressure. Aside from its relation to the pulse pressure, which has already been sufficiently discussed, a low diastolic pressure, below 60 mm., should, I believe, always be regarded with suspicion. No definite significance can, however, be assigned to the phenomenon itself; whether diagnostic or prognostic, without a full study of concomitant symptoms.

Among chronic pathologic conditions seen in general practice in which low blood pressure is a factor of some importance, I would name pulmonary tuberculosis, the anemias, and hyperthyroidism. But while it is a fairly constant symptom in these morbid states unless some complicating condition, such as nephritis or diabetes, is also present, it has no value as a guide in prognosis, although useful as an index of the progress or absence of progress of the case toward improvement. This is, I think, particularly true of Graves' disease, in which the relation between a rising blood pressure, especially diastolic pressure, and improvement is particularly striking. To discuss this point further would lead us into the realm of therapeutics, which is not within the scope of this paper.

It is in the acute infections that abnormally low pressures play an important rôle; again, however, not so much in a prognostic sense, as in the therapeutic management of the case. The formula suggested by Gibson as a definite prognostic indication in pneumonia, namely, that in favorable cases the systolic blood pressure remains above the pulse rate, has at the present time only historic interest. In one sense, however, a low diastolic pressure may be said to be an unfavorable omen in pneumonia and, that is if it persists in spite of medicinal treatment definitely directed toward the raising of the blood pressure. Even this statement I submit only as a suggestion, although I have for several years, in association with my former chief, Dr. S. Solis-Cohen, practiced systematic blood pressure observations in my pneumonia cases. He would be a bold man, indeed, who would venture a categoric statement of any kind in regard to the prognosis of lobar pneumonia!

In conclusion let me repeat that in general practice the blood pressure as an isolated symptom is of very little value for the immediate prognosis, whether in acute or chronic conditions, and even when taken in connection with all concomitant symptoms its value is limited. It is practically more useful as a guide to treatment. As a criterion of longevity in life insurance work, on the other hand, its reliability has been established by abundant statistic experience.

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DISCUSSION

Dr. Francis Ashley Faught, Philadelphia: I think Dr. Goepp is to be particularly congratulated for bringing before us the subject of blood pressure as a prognostic factor, while emphasizing the fact that the study is by no means confined to the systolic pressure. Also, in that his paper does not deal entirely with the actual pressure level, but with ratios, which afford greater information than the readings themselves. If we carry away no other thought we should be impressed with the fact that the greatest value in the use of the blood pressure test is not derived from the actual figures obtained by the systolic and diastolic study, but that the greatest information, the most practical clinical value of the test, is derived from the use of certain known ratios and formulas. Furthermore, he has mentioned the work of Drs. Goodman and Howell, relating to the cardiac ratio of heart strength. I regard this as of much value.

In reference to the reading of the diastolic pressure, I believe the change from fourth to fifth phase is the most accurate and easiest to obtain after a little practice. Since studying this question I have felt that it was easier to ask the student whether he does or does not hear a sound. This brings up the question on which Dr. Swan writes a word of caution—that we should divide sounds heard during auscultation from the beginning of sound to the passage of all sounds into four phases and five points; and talk about the points when you mean the change of one sound from another; and of phase when discussing their duration. From the clinical standpoint we have to take into consideration all the evidence that we can obtain regarding the individual patient under consideration. I have 200 or 300 records of some cases running over a period of seven and eight years. These are kept on special cards and are readily available for study at any time, and I base my opinions on these. I consider the effect of sclerosis on the blood pressure ratio as extremely important in defining the early variations from normal. In addition I would call attention to what has been termed a relative hypotension, a condition in which the systolic pressure may be well within the normal for an individual of given age, but in which the clinical signs point to the fact that the individual had for some time a marked systolic elevation and large blood pressure; so that he actually suffers from the effects of a hypotension in spite of the present evidence that his blood pressure readings are within the estimated normal of an individual of that age.

Dr. John A. Lichty, Pittsburg: The discussion of blood pressure as a prognostic factor depends almost entirely on how we shall accept the first paper that was read this afternoon; that is, whether there is such a thing as "essential pressure." We can scarcely discuss the one paper without bringing in some points in the other. I hope I may be pardoned then if I speak of Dr. Mosenthal's paper to some extent also. I would like to put myself on the side of those men who do not altogether believe in essential blood pressure. I believe that if we had had a blood pressure apparatus twenty-five years ago which is as good as the Faught or others, we would have had a large class of essential hypertensions, and I believe that in ten years from now our essential hypertension will be about gone. We have a good example of this in the hyperchlorhydrias which used to disturb us some twenty years ago and which were called "a disease." Hypertension has been called a disease today, but I do not see how it can be dignified with the name of disease. We certainly have very few hyperchlorhydrias since we know the effect of gallbladder trouble, appendix trouble and other conditions on the gastric secretion.

Dr. Faught speaks of essential hypertension and at the same time refers to disturbance of the internal secretions and of toxins being the cause of hypertension. It is a manifestation of disease or physiologic disturbance in some organ which we shall after a while no doubt understand. I thought several years ago that I had found essential hypertension in women who were at about the menopause and I thought that by a certain kind of treatment I could overcome this hypertension. I gave them bromid and chloral and had them rest. The condition disappeared and I believed, therefore, my diagnosis was correct. I believe now, however, that the condition was a disturbance of the glandular secretion which, if we understood definitely, would be characterized as much a disease entity as nephritis. Under such circumstances we would not call the condition essential hypertension. I think that Dr. Goepp has brought out some very important points in the study of blood pressure. I would like to ask what interpretation he would place on a constantly low blood pressure. This has been observed in a man who seems perfectly well, who is doing an enormous business, does it easily, enjoys it, but has a blood pressure of 110 systolic; diastolic only 80. He is a man of between fifty and fifty-five. I have had patients who were perfectly well except for a low blood pressure. Their knowledge of this has made them quite concerned about this point, insisting as they do on having it changed. Nothing that I have been able to do, however, has any effect.

Dr. Irwin J. Moyer, Pittsburgh: I am glad to hear the reference which has been made to the digestive organs. I have seen many cases in which there was nothing wrong with the tonsils, teeth or nervous system and yet in which hypertension was present. I believe that the patient's digestive organs form a very important factor not sufficiently dwelt on. The subject of hypotension mentioned, we do not hear so much of. The appearance of hypertension I have always considered as indicating a critical period in the patient's life.

Dr. Goepp, closing: A patient with a blood pressure of 100 should not necessarily be considered as having an abnormally low pressure. Even in large, heavy men we frequently find the systolic below 100, and the diastolic as low as 70. According to statistics, those with low pressures seem to be safe insurance risks. Low blood pressure is far more important in acute than in chronic disease; its value is not so much prognostic as in the line of a guide to management. In general, blood pressure in itself is of little use as a criterion of immediate developments; it is rather an indication of what may happen to the patient in the remote future. The average layman has his head filled with the idea of blood pressure. It would be ideal if we could take the blood pressure readings without the patient's knowing it. The subject is very much exaggerated as a practical part of general practice and physicians should try to combat this idea as much as possible among the public.

PROGNOSIS OF CASES OF INTESTINAL PERFORATION IN TYPHOID FEVER WITHOUT OPERATION *

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The object of this article is not to persuade the physician to substitute the expectant plan of treatment in intestinal perforation in typhoid fever for the universally recognized surgical treatment which is giving such excellent results, but to get the physician to be on the lookout for complications, especially for perforation, and when perforation is suspected to call in a skilled surgeon at the earliest possible moment. If a surgeon cannot be had or if the family refuse to have surgical attention, as is often the case in this hour of desperation, the physician should not give up the case but keep on working with all earnestness and with a hope that there may be an arrest of the local peritonitis or that a fistula may form, allowing the escape of pus, or some other unforeseen condition develop which may make it possible for the patient to recover. If the patient recovers under such unfavorable circumstances, you will have friends to favor and extol you instead of enemies to oppose, decry and unfavorably criticize you. Do not give up your patient even though you have such a formidable complication as perforation.

Our textbooks on medicine and on surgery are the source of information which students acquire in reference to the fatality of perforation. Dr. J. C. Wilson claims: "Intestinal perforation is almost always followed by the fatal issue; the patient succumbs in the course of a few days to the consecutive peritonitis. In rare instances, a longer period may elapse and a very few cases of spontaneous recovery have been noted. A favorable prognosis cannot be made and the only chance for the patient lies in prompt surgical intervention." Dr. W. W. Keen in his work on perforation states, "If the operation is not done within twenty-four hours after the accident there is practically no hope for recovery." Dr. Webb-Johnson, a British surgeon, states, "The usual result of a perforation, if left alone, is general peritonitis, but in very rare instances we find evidence of a localization of the infection or a protective plastic peritonitis preventing leakage of the bowel contents." By reading textbooks one gains the impression that perforation usually means sure death. This erroneous impression, to the writer's knowledge, has never been openly challenged.

Of all febrile infections, typhoid fever is the most prevalent of the present historical epoch. This infection occurs usually in youth and early adult life. It frequently occurs in the healthy and robust person and at an age when severe shock and strain are well borne, which may account for some of the recoveries in perforation.

The mortality in typhoid fever in private practice is probably less than in hospital practice; this is due to the serious condition in which many of the patients are found on their admission. According to Dr. J. C. Wilson the mortality varies in different epidemics and ranges from 5 to 17 per cent. In private practice it will probably not exceed 8.5 per cent. Some surgical statistics state that 25 per cent. of all deaths in typhoid are due to perforation.

A physician's skill is often judged by his ability to give a proper prognosis, as well as diagnosis. How embarrassing it is when one says there it no chance whatever and yet the patient recovers. A reasonable prognosis depends on a correct diagnosis. By making a correct diagnosis one can foretell the probable course of a disease, whether it tends to a normal restitution or a continuing disability or to death. Rational medicine regards symptoms primarily as clues to a diagnosis, only secondarily as indications for treatment. It not infrequently happens that a diagnosis of perforation is in doubt, but much confidence may be placed in a good clinician with a good colleague, be he

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

physician or surgeon. There is no doubt that many cases of perforation are overlooked. When physicians report several hundred cases of typhoid fever without any perforation, but a mortality of 8 per cent., there is most likely a faulty conclusion as to the cause of death in some cases.

It is only fair to say that a single physician's experience in perforation is not sufficient evidence from which to draw any valuable conclusion. Cordial assistance has been received from a great many physicians living in cities, boroughs and rural districts where typhoid fever has prevailed at some time or other as an epidemic. The physicians from whom the information has been procured have treated over 14,000 cases of typhoid. It may be stated that a large number of physicians closely associated with surgeons and hospitals invariably state that in a very negligible per cent. of cases of perforation the patients recover without operation, while a number of equally capable physicians having connection with hospital work and a very large number of able physicians not doing institutional work have a more optimistic view of the possibilities of recovery without surgical measures.

In reply to a questionnaire which was sent to these physicians, most of them stated that they had treated over 100 cases of typhoid, some over 1,000, and one over 1,500. About 50 per cent. of the physicians reported no perforations; of those who reported perforations, a large number had had able consultants who agreed in the diagnosis. The entire number of perforations reported was twenty-five, of this number seven of the patients recovered. There is no doubt that many more perforations had occurred but were not recognized as such. Those reported were of a typical character and some had evidence which could not be mistaken for anything else than perforation. A physician of considerable experience reported four cases of perforation; none of the patients had operations, three died, one recovered after suffering the classical symptoms of a local peritonitis. The patient was unconscious for three days and then rallied. The local condition subsided and in the course of three weeks the patient was able to be out of bed. For the seven days following the perforation a mass was detected on the right side of the abdomen. Another physician and surgeon reported a case in which the bladder was ruptured with a discharge of pus and fecal matter through the penis and later a fistulous tract through the anterior abdominal wall over the bladder. The discharge continued for about two weeks. The fistula closed and the patient had a complete recovery. A case of perforation was reported with rupture in the rectum through which the pus was discharged. This patient had a relapse and lived four weeks, when he died. An autopsy was made which verified the diagnosis of perforation and the rupture in the rectum during the primary attack of typhoid. One physician reported four cases of perforation with one recovery. Another reported four cases with 100 per cent. deaths. One of his cases was diagnosed as acute appendicitis complicating typhoid. The abdomen was opened but the appendix was found normal. A perforation sufficiently large to admit the index finger was discovered; the patient died six hours after the operation. The cases reported by other physicians were almost as interesting but did not have the indisputable evidence of perforation as those to which reference has been made.

In conclusion, it may be stated that none of the physicians answering the questionnaire had operations in any of their cases, except the one which was mistaken for appendicitis. In some instances, surgeons were called in but, owing to the serious and hopeless condition of the patients, operations were not considered justifiable. There is a probability that if operations had been performed in the other cases, the mortality would have been reduced. Again the writer wishes to emphasize the importance of an early operation in perforation. It is the universal method of treating such conditions, but if an operation cannot be had, do not give up all hopes, for some cases recover.

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DISCUSSION

Dr. S. Solis-Cohen, Philadelphia: I agree thoroughly with every word that Dr. Eisenhower has said. I have had quite a considerable experience in the treatment of typhoid fever, both in hospital and in private practice. I said "every word"; no, not quite every word that Dr. Eisenhower said. Like most of the younger men he forgets the exception. Dr. J. M. DaCosta, who taught before the days of operation in typhoid perforation, taught that about one case in four could be expected to recover. Dr. Alonzo Clark, who also taught in the earlier days, taught the same thing, that about one case in four in which the condition was recognized could be saved. His treatment, which was endorsed by DaCosta, was the administration of opium to the point almost of stupefaction, simply permitting the patient to wake every three or four hours to receive a minimal quantity of fluid nourishment, or water, and then go to sleep again under the opiate. I have had similar results. But, as Dr. Eisenhower has pointed out, that does not mean that we ought not to operate as early as possible in every case in which early operation is practicable; and that, I think, sums up the whole situation, with one exception. It is better to prevent than to cure. We can prevent perforation in typhoid fever absolutely by preventing the typhoid fever, and we can prevent the typhoid fever, as we well know, by vaccination. Therefore, the treatment of perforation of typhoid fever is vaccination before the patient gets either the fever or the typhoid perforation.

If, however, vaccination has been neglected and the water supply and milk supply of the community have been neglected we can still try to prevent perforation by a simple means. To quote again my great master, DaCosta: When one prevents an accident which he is not certain would have happened, he has no means of proving that he has prevented it. That is to say, you will treat a large number of patients in a certain way and they will not have perforation; you cannot prove that if you had treated them some other way they would have had perforation. And yet, one gets the feeling that if a perforation is less frequent in a service in which a certain routine method is carried out, in other services there is a reasonable doubt in his favor and the belief that he has prevented the perforation. Now, ulceration in typhoid fever is followed by perforation frequently through the distention of the bowel by gas; a weak place in the bowel gives way, even though the ulcer itself has not penetrated. Distention of the bowel in typhoid fever can be prevented almost absolutely by placing on the abdomen of the patient at the moment the diagnosis is made a coil through which ice water is allowed to run and keeping it there continuously until the patient is convalescent. Distention tympanites occurs so infrequently under this treatment that I am satisfied it does much to prevent it. Of course, the diet is regulated and everything else that is proper is done. But the so-called Leiter coil, made of rubber instead of blocked tin, placed immediately on the abdomen and kept there until the period of danger is past, will prevent distention and do many other good things, and in preventing distention lessen the chances of perforation.

Dr. David S. Funk, Harrisburg: I should like to refer to the subject of prognosis in connection with Dr. Eisenhower's paper, inasmuch as this applies to any ailment as well as perforation of the intestinal canal. Dr. Hamman yesterday very aptly emphasized the point of the power of natural resistance on the part of the individual. We have all seen cases which from the viewpoint of both scientific medicine and empiricism ought to prove fatal, but the patient does not die. Again, following a major operation, a patient is pronounced, and with good reason, absolutely out of danger; then there is a sudden relapse and the patient dies from pulmonary embolism. The patient was not out of danger. The point I would emphasize is that we cannot be too guarded about the ultimate outcome of any case, for the simple reason that we do not know everything about everything yet. However, given a case of typhoid fever, in a remote rural district, a case in which the patient had been unfortunate enough to sustain a clearcut open and above board intestinal perforation from the viewpoint of the attending physician, it would appear to me that the physician were remiss in his duty and recreant to his trust if he did not, in the matter of prognosis, paint a picture so black that one could barely distinguish it from crepe on the door. If the patient recovers, so much the better; I have never come in contact with such environment and therefore cannot speak from experience. My entire professional life has been spent in a municipality affording excellent hospital facilities and, I am pleased to say, first-class surgical skill. It occurs to me at this moment that I have seen one typical picture of perforation in a woman admitted to the hospital desperately ill, with perforation occurring twenty-four hours after admission. She was almost moribund and far too ill to permit us to think of surgical interference. Yet that patient got well. Again, we have seen patients die when the prognosis seemed to be excellent, and the perforation closed.

I should like to call your attention to two cases in which the clinical picture of perforation was complete. In one case section was not done until six hours after the supposed perforation had occurred. Everything in the abdomen was found to be as we had anticipated except the hole in the gut. Peritonitis was apparently rapidly spreading; careful search of the bowel was made but without finding the slightest semblance of perforation. The abdomen was closed, the peritonitis continued and in eighteen hours from the time of section the patient succumbed. The other case presented precisely the same train of symptoms with the onset more rapid and pain more severe. The general condition of the patient was so typical of perforation that in two hours from the time of the development of symptoms the patient was on the operating table. Here again no perforation was found. We did find a peritonitis localized, and at 1½ inches from the cecum there was a decided thinning of the gut and the intestinal peritoneum had the appearance as of being overstretched and of gradually giving way. The surgeon, I think, managed the situation very cleverly. The lesion was not more than ¼ by ⅛ inch in extent and the operator brought the gut over into apposition with the cecum and secured it there by Lembert suture. The patient made an uninterrupted recovery.

Dr. H. D. Washburn, Susquehanna: We all know that typhoid fever is a preventable disease and that prophylactic vaccine is one of the chief methods of prevention. My experience with typhoid has been limited and I simply wish to call attention to two cases that have come under my observation, both of which were diagnosed as perforation. One patient was supposed to have been operated on within six hours after perforation had occurred. The perforation was about ½ inch in diameter. The patient was a man 25 years of age and had not suffered a great deal from exhaustion, but death occurred in three days. The second case was one in which the diagnosis of perforation was made, but on account of the low vitality of the patient it was thought that an operation was out of the question. This case also terminated fatally. Some authorities give the prognosis of perforation without operation as one in 25,000; with operation 30 to 50 per cent. Therefore, in the majority of cases it would seem that operation ought to be done just as soon as a diagnosis can be made.

Dr. George E. Holtzapple, York: From my observation I have been led to believe that the impression we receive from textbooks is not quite correct. In preoperative days you will find that writers taught that in typhoid fever perforation cases as many as 5 per cent. of the patients recovered.

Some writers of today say that one case in a few hundred recovers. I am sure there are many very good men throughout the country who from extensive experience along this line have had opportunity to make careful observations and are too modest to speak on the subject. I should like very much to know what the result of their experience has been. I am inclined to believe that more cases recover without operation than we are led to believe by some writers of textbooks. One of the cases reported by the author as having recovered from perforation was my own. Operation is the treatment for perforation but if for any reason an operation cannot be done we should not relax our efforts but we should stick to the patient until he is either well or dead.

Dr. James I. Johnston, Pittsburgh: In our series of typhoid perforations with operation, we have had 37 per cent. recoveries. I have never yet been sure the cases not operated on ever recovered, although I have seen cases in which the operation has been refused and the patient recovered. In one case in which the abdomen was opened the omentum had fallen against the perforation and sealed it over. We kept our hands off and the patient got well. The recovery, I believe, was a pure accident. I think 5 per cent. recovering without operation is a mistake. We ought not to be too optimistic about cases not operated on, which impression we might get from Dr. Eisenhower's paper.

THORACIC SURGERY *

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Thoracic surgery, and particularly that of the lung, has been affected to a considerable extent by the experiences of the war. While nothing very striking or very original has as yet been forthcoming, the invaluable point has been established that the lung may be handled, with proper technic, as freely as is the kidney or the stomach. But the surgery of this part of the body has been "in the making," for some years prior to the war, ever since the cabinet of Saurbruch, and particularly the method of our own Meltzer, stimulated surgeons to see what they could do in the opened thorax without fear of the dangers of a collapsed lung.

The particular aim of this paper, however, is to call the attention of practitioners and surgeons to certain points in the technic, learned from the great numbers of sick and wounded, in camp and in the field, which are applicable to similar conditions in civil life.

At the front the chest wounds are either "open" or "closed." With the first we will have nothing comparable—nothing in civil life is like the wide open wounds, with the lung flopping back and forth, frothing, bleeding and, unless plugged, soon terminating life. But the closed wound, with a bullet or bit of shell or shrapnel in the lung presents a problem similar to the gunshot wound seen in civil practice.

I think that most of us in the past have followed, up to a certain point, the practice of those with large experience in the thoracic surgery of this war. The patient is put at absolute rest, treated for shock, and given morphin. The wound of entrance (and of exit if there is one) is excised, disinfected and covered with a dressing, but not probed or drained. Hemothorax, pneumothorax and collapse of the lung must be noted and aspiration of the lung done if pressure symptoms supervene. As soon as practicable a roentgen investigation is made to locate the bullet; stereoscopic pictures are absolutely necessary, but in an emergency the fluoroscope can be used.

At this point we have been content to rest and await developments, leaving the bullet, if all goes well, or, when abscess occurs, removing it by the methods well known in operations for lung abscess. Pierre Duval, however, has shown us that the exposure of the lung and the removal from it of a foreign body is as safe as most other major operations and not only enables us to remove the bullet but also to clean the pleural cavity of its contained blood clot. Shortly after the receipt of the injury, when reaction has occurred, ether is administered by the open method (an endotracheal apparatus is not necessary), and an incision 9 or 10 inches long made over the fourth or fifth rib. About 6 inches of the rib is then removed, and after cutting the intercostal membranes the pleura is carefully separated with the fingers above and below for some distance, to mobilize it. The pleural membrane is then rapidly divided the full length of the opening and a rib spreader rapidly placed in position and sprung open. The lung is then taken by a pair of grasping forceps and pulled to the wound. If these maneuvers are done rapidly the mediastinum is steadied before the pneumothorax has had time to work injury to the circulation. The lung can then be drawn out onto the chest, the bullet easily felt, the lung incised over the bullet, which is removed, and the incision in the lung closed by one or two fine catgut sutures. Blood clots are scooped out, the cavity gently mopped and disinfected, if thought necessary, by ether (Duval) or perhaps by Dakin's solution. The lung is then replaced but still steadied by the grasping forceps and the pleura closed. This is not easy to do and it is probably impossible at times to avoid some tearing. The muscles

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

are next pulled together with catgut mattress sutures and the skin sutured with silkworm gut. No drainage should be introduced. Finally, the pneumothorax is emptied by aspiration.

I had the good fortune about six months ago to practice this method on a patient admitted to the Polyclinic Hospital with a bullet in the lung, and on another patient to evacuate an organizing large clot from the pleural cavity. Both patients had an easy convalescence and have remained well.

I do not yet know just when to advise thoracotomy in these cases. If it were not for the occurrence of infection we might formulate: Early operation is indicated (*a*) when there is a rapidly increasing pneumothorax from a valve-like opening; (*b*) when the rib has been splintered by the bullet, and the fragments pressing on the pleura cause pain; (*c*) when hemothorax is large and seems to be increasing. Late operation is indicated (*a*) at any time when the pleural cavity appears to be infected; (*b*) after six or seven days when the patient's condition is excellent and he has been well studied.

The crux of the situation, however, hinges on the matter of infection. If we wait until the patient is in excellent shape to stand the operation we may lose the opportunity to so cleanse the pleural cavity that aseptic conditions can be established. If we operate in all cases immediately, we will lose many from shock. A larger experience will settle this point. Time does not permit our dwelling in any detail on some other advances. The roentgenologists have very greatly perfected the means for localizing foreign bodies, and chest surgery will share in this. The medical men have had the opportunity to examine large numbers of cases with hemothorax, pneumothorax, and that exceedingly interesting condition called contralateral collapse.

If it is determined not to search for the bullet we should aspirate the pleural cavity on the slightest suspicion of the onset of infection and if cover-slip smears confirm our suspicion the chest must be opened and drained. In the report of the Empyema Commission mention is made of the better results obtained during the early days by aspiration, but the infection they were dealing with is not comparable to an infected blood clot. An interrib incision after the method of Lilienthal will enable us to clean out the cavity of the clot, and to disinfect it by the method elaborated in the War Demonstration Hospital of the Rockefeller Institute. The pleural cavity is flushed out with Dakin's solution and four Carrel tubes stiffened with fine silver wire are so placed as to reach all parts of the cavity, their position being checked by the roentgen ray. Through these, instillations of full strength Dakin's solution are made in amounts of 80 or 100 c.c. every hour during the day and every two hours during the night. When the cavity becomes sterile the wound is closed by suture. This method was practiced on postpneumonic empyema cases, but it would be just as applicable to gunshot injuries, and indeed has been so used by DePage and others.

The splendid studies of the Empyema Commission published in *The Journal of the American Medical Association* are accessible to everyone and should be carefully read for the many valuable technical hints they offer. Caution should be exercised, however, not to consider the streptococcic infections of the lung there presented as being entirely similar to the empyema of pneumococcic origin seen in civil practice. It is perfectly true that a too early operation may be done in these, and such is to be avoided as the commission concludes, but when frank pus has appeared thoracotomy with drainage must be done. The many extensive operations devised for a big cavity would be rendered unnecessary if empyema was detected and operated on at the proper time.

Finally, a word about the heart: There is little new in the war literature, about twenty cases having been reported in the French and perhaps half as many in the English. The mortality has been about 25 per cent. (much lower than the 60 per cent. of civil practice), but this is the result of a selection of cases, the soldiers dying on the field or in transit, whereas the civil case reaches the hospital in an hour or less. Some interesting studies have been made by the French roentgenologists but they need not be recounted here. The matter of adhesions in the pericardium, the result of irritation from a free foreign body, has also been given consideration and I do not believe we have ever given much attention to this in the past except to practice Braun's cardiolysis. Delorme suggests the use of the adjacent left pleura, and Leveuf fixed a tongue of the left lung to the pericardium in place of the diseased pericardium.

We thus see that in thoracic surgery just as in other branches, the medical profession has been alive to their opportunities and that the war, terrible as it is to the individual, has offered some recompense in the advances made in the technic of surgery, advances which will inure to the benefit of the civilian community for decades.

DISCUSSION

Dr. Nathan W. Green, New York, N. Y.: The question of surgery of the chest divides itself into five branches: (1) mechanics; (2) maintaining asepsis; (3) operative procedure; (4) shock, and (5) septic infections. This last subdivides itself into (*a*) the question of drainage, and (*b*) of reestablishing asepsis.

Formerly much stress was laid on the effect of inducing pneumothorax during the surgical invasion of the chest.

With the means of a mechanical nature which have been used during the last twelve years to control the collapse of the lung, the surgical opening of the chest has lost most of its terrors. These means are familiar to us all. They may be included under the head of differential pressure (Meltzer, Meyer).

In the traumatic injuries of the chest the question of maintaining asepsis is at present much under discussion. It is being proved at the present time on the fighting front that large injuries of the thoracic viscera may be repaired and the chest wall closed without supervening sepsis. Col. H. M. W. Gray, in the *British Medical Journal,* for Nov. 3, 1917, says: "It is very desirable to completely close the chest in every early case. I believe by so doing the mortality will be lessened." He further states that during one month 198 cases were operated on at a certain casualty clearing station with drainage of the pleural cavity: 99, or 50 per cent., of these patients died; 57 cases were closed completely, and 17 of the patients died (29.8 per cent. mortality). It appears to him, therefore, that the operation of complete closure is 20 per cent. better than the operation with drainage. "It may be necessary to reopen the chest on account of the development of intrapleural sepsis, or to remove a foreign body, but, by the time this is necessary, the patient has been tided over his dangerous period; and when the pleural cavity is drained there is no more respiratory distress than after an ordinary empyema operation," says he.

Capts. J. C. H. Roberts and J. G. Craig of the R. A. M. C., in speaking of the surgical treatment of severe war wounds of the chest, remark: "No cases were drained unless (1) the chest wall could not be closed owing to the condition of the patient, or (2) if infection of the lung or of the pleura as distinguished from its contents was definitely established." They further state, "We soon overcame our scruples about completely closing up cases with a streptococcal infection, but we must admit to a more gradual conversion to the idea of closing cases with anaerobic infections. This, however, we have proved to be quite a safe procedure, when the precautions we have enumerated are carried out" (that is, clean surfaces left internally). Their operative work was done preferably under local anesthesia. Of the open and sucking wounds with free air entry, of which they had 29 cases, 5 recovered with pleura closed out of 12 operated on and wound closed; 7 died, making a mortality of 58.3 per cent. Of 17 cases in which the pleura was drained 5 of the patients recovered and 12 died, a mortality of 70.5 per cent. The commonest cause of death was bronchial pneumonia of the uninjured lung.

Dr. Frank J. Hathaway, in the *British Medical Journal,* for Nov. 3, 1917, advocates closing the pleura. All these observers agree to close the pleura first; that the closed operative cases in war operations on the chest do better than primary drainage.

The question of operative procedure on the thoracic viscera must be determined by the pathologic or traumatic conditions found at the time. Injuries to the heart must be sutured. Injuries to the lung must be closed, if possible, but if too extensive may require a local resection of the injured area. Large vessels may require ligation to control hemorrhage, but injuries to large vessels may prove so rapidly fatal that they infrequently come to the operating table.

According to Pierre Duval: "Hemorrhage is with asphyxia the great cause of the frightful mortality of wounds of the lung (25 per cent.). It is very exceptional that a very acute infection carries away the wounded in twenty-four to forty-eight hours. The hemorrhage and mechanical troubles of respiration can alone explain the very great number of these very early deaths at the ambulances. Observation shows that gas gangrene does not occur in the lung. Gangrenous infection of the wound is relatively rare. The lung defends itself against the infection of wounds of war more than all the other tissues. Up to this present hour the lung is the only organ in which the surgery of war does not obey the precepts of general surgery. Why is this exception? The logical treatment will be the wide incisions, the excision of dead tissue and the removal by sight of all foreign bodies.

"The first extraction, immediate or early, of intrapulmonary foreign bodies of all kinds, ought to be considered as the rational prophylactic treatment of infections of the wounds of war of the lung. It alone permits the avoidance of the most grave early or late complications of the wounds: pleuropulmonary infection."

R. Gregoire and A. Courcoux note the preponderance of wounds by projectiles of artillery are more and more, as the war progresses.

Pathologic conditions of the lung are most frequently coupled with infection. Chronic lung abscess or multiple bronchiectasis presents pictures which are easily recognizable and many times offer conditions which are distinctly amenable to surgery. In dealing with these conditions one must be careful to maintain the asepsis of the pleural cavity while endeavoring to cure the pathologic condition. The nature of the condition may be ascertained by the roentgen ray or by the bronchoscope, or, lastly, by an exploratory thoracotomy. It frequently happens that a chronic lung abscess may have had over it an empyema, which has been drained externally or has drained internally. In this event the visceral and the parietal pleura may be adherent and drainage established directly from the outside into the abscess without further contamination. But it also frequently happens that on opening the chest in these conditions practically no adhesions are encountered. If we are going to drain, then, the abscess, we must first suture the lung to the parietal pleura and open it at a later sitting. This suturing is made feasible by the employment of differential pressure.

In wide injuries of the chest the patient may be in profound shock; of course then it is best to do as little as possible, and to wait until it has passed off. While we are waiting septic infection may implant itself.

There has been much interest shown during the past year in the use of the Carrel-Dakin method for overcoming septic infections of the pleural cavity. This has been reported on favorably by many observers and represents a distinct advance in the treatment of these conditions, provided no bronchial fistula is coexistent. During the past year the rather conservative drainage of streptococcus empyemas with the closed tube of Kenyon has given a better percentage of recoveries when coupled with the Dakin irrigation of the cavity, than has the old method of rib resection with a wide opening of the chest.

DR. SAMUEL J. MELTZER, New York, N. Y.: About eight years ago I constructed a simple apparatus for intratracheal insufflation for Dr. Carrel. I have seen many of his experimental dogs in which the thorax was transversely opened widely—double pneumothorax. These dogs recovered without having had an infection. In the course of the last year I demonstrated to several hundred military officers anesthetized and curarized dogs with the chest wide open. The entire heart was exposed to full view. The animals were kept alive and with normal blood pressure by the method of pharyngeal insufflation. The experiment never failed. I have often demonstrated a fact of practical importance, namely, that if artificial respiration was sufficient the heart could be handled freely with impunity; but even a slight touch of the heart often led to fatal fibrillary contractions if the artificial respiration was suspended or was insufficiently executed. Artificial respiration is very useful during anesthesia and is indispensable in major operations on the thoracic cavity.

I did not read the original articles of Dr. Duval on lung surgery. My knowledge of his views is derived only from abstracts in medical journals and from reports which the War Department is publishing. Duval operates without artificial respiration and he seems to claim that it is much easier to operate when the lung is not distended. I have often demonstrated on animals that it is easy to handle the lung, to put in stitches or ligate parts while artificial respiration is administered. Dr. Green said, incidentally, that intratracheal or pharyngeal insufflation means positive pressure. You certainly need positive pressure in using the methods of intratracheal or pharyngeal insufflation. But the essential object in the methods of intratracheal and pharyngeal insufflation is the production of artificial respiration, and mere positive pressure does not accomplish it; that is, when the individual is unable to make efficient respiratory movements. I need not add that the surgery of the thoracic cavity needs the same careful attention which the surgery of the abdominal cavity receives.

DR. MÜLLER, closing: I want first to thank Drs. Green and Meltzer for discussing my paper. At a time when we were confronted with the possible necessity of building most elaborate cabinets for positive and negative pressure they saved the situation by calling our attention to the endotracheal method. The war surgeon has learned much from civil surgery and is applying it to his work, but he can also learn much from "war surgery," and we should not wait until the war is over to apply to civil practice the lessons taught in the war zone. Had I more time I would discuss the lessons learned in the camps in this country regarding the treatment of empyema; the reports are easily accessible, however.

THE TREATMENT OF MALIGNANT DISEASE BY COMBINED METHODS *

GEORGE E. PFAHLER, M.D.
PHILADELPHIA

At least four methods have been proved to be of distinct and positive value in the treatment of malignant disease. Each method can claim many successes to its credit, but the profession and the laity know well that each has also many failures. It is with the hope of influencing the profession to combine one or more of these methods in the treatment of malignant disease that this paper is read, for I believe that whenever additional help can be obtained from another method, or more than one, that the patient is entitled to this advantage. By certain skilful combinations, I am sure that many cases which now are ultimate failures may be made successes, and in this way advance be made in the treatment of this dreaded disease. The four methods which stand out most prominently in my mind are surgical excision, electrocoagulation, roentgentherapy, and radium therapy.

Surgical excision needs no explanation. It can be used anywhere, but, to be effectual, must be used early and the dissection must surround the disease or failure will result. Cutting into malignant disease tissue, I believe, does harm always unless it is absolutely and completely removed, for a cancerous cell can easily float into the circulation and, once deposited elsewhere in the body, the fight against the malignant disease is practically lost. Bloodgood[1] has well stated that the removal of sections for diagnosis and then delaying the radical treatment only aggravates the disease and gives no advantage. Surgical excision of malignant disease is especially essential and advised, where there are important blood vessels or nerves which must be preserved. In every case in which the malignant disease is excised surgically, such excision should be followed as soon as possible by thorough roentgentherapy, and sometimes radium therapy can be added to advantage. In fact, I believe that in many instances it is an advantage to treat these cases, especially advanced cases, thoroughly by deep roentgentherapy, and then follow immediately (that is, within a few days) by thorough excision. The deep roentgentherapy should then again be repeated in four weeks, at which time the patient will likely have recovered from the operation. In following this procedure I have never yet found any disadvantage.

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept, 24, 1918.

[1] Bloodgood: Carcinoma of the Lower Lip; Diagnosis and Operative Treatment. Surg., Gynec. and Obst., April, 1914, p. 404.

Electrothermic Coagulation.[2]—As the name implies, there is produced a coagulation of the tissues by means of heat, the heat being generated by the electricity. It differs, however, from the thermocautery for the removal of the disease, in that the heat is generated in the tissues and is produced by the resistance to the flow of the electricity through the tissues, while the thermocautery destroys by transmitted heat and necessarily produces a more superficial effect. The effect of electrocoagulation can be thoroughly controlled by varying the relative sizes of the electrodes, so that one can make the conductive heat approximate a cone or cylinder. When one of the electrodes is a point, and the other a flat surface, the greatest amount of destruction will develop at the point, and then will radiate more or less coneshaped toward the opposite electrode, thereby in the distal area giving a zone in which the tissues are heated to the destructive degree for malignancy, but in which healthy tissues will not be destroyed.

Technic.—The d'Arsonval current is generally used, or a combination of the d'Arsonval and Oudin current. An instrument is necessary which will generate from 1,000 to 2,000 milliamperes of current. The amount of current will, of course, vary with the amount of destruction of tissue necessary. The amount of destruction of tissue as well as its depth is a matter of clinical judgment. For large lesions, the two electrodes are used attached to the two poles, and brought in direct contact with the diseased tissue. We, of course, know that the d'Arsonval current is alternating in character. For small lesions, a single electrode is used with a very fine point and it is attached to the Oudin current. The shape and character of the electrode will vary with the character of work required. For instance, if one desires to remove a considerable portion of the lip, I would use on the inside a ball electrode about three-eighths inch in diameter, and on the outside a needle point electrode. Then I would outline the area of the diseased tissue to be removed by allowing the current to flow from this point toward the ball electrode on the inside, and then coagulate the entire diseased tissue, or, better, one can use a large pad under the buttocks and with a needle point outline the diseased area, and then destroy it and excise the coagulated tissue. At first I depended on the needle electrode actually to carve out the diseased tissue; but now I find it simpler to cut this away with a pair of curved scissors after coagulation, always cutting within the coagulated tissue. In this way there is no bleeding, and the edges are completely sealed off. The blood vessels and lymphatics are at no time opened, which I believe to be a distinct advantage in the prevention of metastasis and in ultimate cure of the patient. In destroying an extensive lesion in the cheek I use a flat electrode, 1 inch in diameter, on the inside, and a point electrode on the outside. In destroying a portion of the tongue, I have used two-point electrodes, but a single electrode used locally with a large pad under the buttocks attached to the other pole is better. The electrodes are held in contact with the tissue. In destroying leukoplakia patches or superficial lesions, I commonly attach one pole to the Oudin current and the other pole to the d'Arsonval. The d'Arsonval current is then used as a general electrode and is applied under the buttocks, while the Oudin current is carried through a point electrode and is used for local destruction. One must always be as sure as possible to destroy the entire diseased area, for there is danger of rapid extension from the periphery if all the disease is not destroyed, unless it is possible to control this tendency by the deep roentgentherapy. The tendency to the increased rate of growth in areas not removed by this process or by operation is probably due to the increased congestion which is brought about by the subsequent reaction, and, as a result, increased nutrition applied locally, due to the increased blood supply, leads to more rapid growth of these cells.

Anesthetic.—In this extensive destruction the pain is intense and some form of general anesthesia is always necessary for large lesions. For this one may use ether or any other of the general anesthetics. Most of the operations are rather short and can be done under nitrous oxid. In mouth cases I find that ether causes so much mucus and congestion about the mouth that the difficulties are increased, first because the disease generally limits the degree to which the mouth can be opened, and the visible field is further decreased by the congestion involving the tongue and mucous membrane; second, the mucus carries away or distributes the current somewhat, and then the area of destruction is less sharply defined. Then, too, one must always consider the possibility of ignition of ether and an explosion. Therefore, in most cases, I make use of either nitrous oxid, local anesthesia, or morphin and hyoscin. In those cases in which there has been a habitual use of alcoholics, these are likely to be insufficient, and in such instances I have had to add ether.

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[2] Pfahler, G. E.: Electrothermic Coagulation and Roentgentherapy in the Treatment of Malignant Disease. Surg., Gynec. and Obst., December, 1914, p. 783.

Cases Suitable for Electrothermic Coagulation.—1. Those cases in which the disease can be destroyed completely, locally, without regard to saving blood vessels or nerves, for in this coagulation process the blood vessels and nerves in the diseased area are destroyed in the same manner as the diseased tissue. It is, therefore, applicable to lip cases, epitheliomas on the inside of the cheek, the tongue, the floor of the mouth, and the alveolar process, but it is not suitable for use on the metastatic glands of the neck. 2. Those cases in which one can combine the local destruction of the disease in the mouth with the surgical removal of the diseased glands in the neck. 3. It is of doubtful utility in sarcomas, and I believe that sarcomas will give better results by deep roentgentherapy alone than with the combination of these two agencies.

Advantages of Electrothermic Coagulation.—1. The disease is destroyed by conductive heat which gives a zone of devitalization without actual destruction of healthy tissue, thereby saving local tissue when necessary. 2. There are no fresh bleeding wounds in which to permit the transplantation of malignant cells. 3. There are no blood or lymphatic vessels opened up through which the disease can be disseminated during the operation. 4. One does not have hemorrhage to contend with, though in tongue cases there is some danger of secondary hemorrhage. 5. There are no open wounds and no danger of local infection.

Disadvantages of Electrothermic Coagulation.—1.There is complete destruction of all the tissue between the two electrodes; therefore, there is no chance of saving the blood vessels or nerves which are in close proximity to the disease. 2. There is necessarily considerable sloughing and foul odor associated during the first two or three weeks, but there is no danger of infection, and I have never had infection of the tissues develop in any case of electrothermic coagulation in any part of the body. The odor can be diminished by the use of dichloramin-T. There is considerable local reaction during the first few days after the operation. 3. It leaves an open area which is healed by granulation, but at times this healing must be followed by a surgical plastic operation to close the mouth or some open space, or correct some deformity. It is truly remarkable how a very ugly wound in the early stages will close in and develop rounded edges so as to become very insignificant. I have in mind the lip, cheek and tongue cases.

Radium therapy is the fourth method to be considered in the treatment of malignant disease. Generally speaking, the effect of radium therapy is identical to that obtained by the roentgen rays, providing that the two agents can be used in equal amounts and equally well. The advantages of the roentgen rays consist in the fact that one can apply approximately a million times as much radioactive effect in the same period of time, granting that the case is suitable, and that the rays can be applied externally. The advantages of the radium, however, consist in the ability to apply the radiation within cavities or in locations in which much energy would be lost in overlying tissues before reaching the diseased area. It also has the advantage of being applied with less technical skill. The third advantage consists in the fact that it can be applied for a considerable period of time without continued attention on the part of the physician and almost without the knowledge or inconvenience of the patient. Its greatest field of usefulness, however, is in the treatment of disease within cavities, such as the mouth, the vagina, the uterus, the rectum, the bladder, the esophagus, etc. In all of these cases, however, one should use the radium for its radioactive effect within the cavities and extensive crossfiring can be obtained by means of the roentgen rays. In this way the two agents supplement and support each other, and one doubles the effect. In other words, by using radium in this manner, one obtains an additional crossfiring effect, corresponding, for instance, to the placing of a roentgen-ray tube within the month, the vagina, the bladder or the rectum, etc., which is, today, an impractical procedure. Using the two agents conjointly in this manner, I am sure that more malignant disease can be eradicated, more patients gotten well, and with no disadvantage.

In discussing the combination of the various methods of treatment, it is of importance to consider the treatment of precancerous lesions, for if the precancerous lesions are carefully and properly treated, there will be a great reduction in the number of cancers that must be treated later by a combination of methods, for in the early cases, or precancerous lesions, a single method of treatment will generally suffice. Towards this end moles, warts, fissures, and slowly healing ulcers should be destroyed by electrocoagulation. Tumors involving glands, especially the breast tumors, should be excised early. In those cases in which the tumors cannot be excised the use of the roentgen rays will often cause their disappearance. As a prophylactic measure we should give close attention to the mouths of our patients. Their jagged teeth should be removed and treated. Pyorrhea ulcers should receive prompt attention. Vegetative ulcers developing about the teeth as a result of root abscesses should receive attention, and the tooth should be eliminated promptly. Leukoplakia demands the cessation of smoking, the elimination of syphilis, and then if the lesion existing does not disappear or develops fissures or thickening, I believe it should be thoroughly destroyed by electrocoagulation. Smokers' stomatitis, of course, demands cessation of smoking. An ulcer which develops in the mouth of the patient who has a positive Wassermann test should show distinct evidence of healing within a few weeks after active syphilitic treatment has been given, or should be regarded as highly suspicious of malignant disease, and treated accordingly. The patient should not be allowed to continue for a month without improvement on a suspicious diagnosis. Ulcers, fissures, crusts or warts that develop on the lower lip or at the angles of the mouth and do not disappear within three weeks should be thoroughly destroyed by electrothermic coagulation, and should receive roentgen ray treatment locally and on the glandular area under the jaw. The larger lesions should have a section removed for microscopic study, but should be immediately destroyed by electrothermic coagulation. Unless the lesion is immediately destroyed there had better be no section removed. I believe that proper attention to these prophylactic measures will accomplish many times more than all the methods known today, single or combined, in the treatment of malignant disease. Time will not permit a review of the cases treated by these methods, but at this point I desire to acknowledge my indebtedness to the surgeons with whom I have been associated, not only for referring patients to me for treatment, but for their close cooperation in the actual treatment of the patients.

I can only discuss very briefly the principles governing the combination of one or more of the four methods which I have mentioned in the treatment of malignant disease. The fact that we are not always successful in the treatment of malignant disease by any single method is sufficient proof that that method is lacking in some respect. It is with the hope of meeting this condition that the combination of methods is desirable. I believe whenever practical the carcinomatous tissue should first be destroyed by electrocoagulation. When this is not practical because of its location, or because of blood vessels or nerves in the neighborhood of the disease, or association with glandular disease, then the disease should be excised surgically, and as widely and as far from the disease itself as is practical. No matter which method of direct elimination of the disease is used, deep roentgentherapy should follow on the excised or destroyed area, or on the glandular area leading therefrom. In fact, it is desirable in many instances to precede the destruction or excision by thorough roentgen-ray treatment. Lesions involving the lower eyelid can generally be treated by the roentgen rays alone and thus avoid the ectropion or deformity of the eyelid which is very likely to follow any local destruction or excision. When local healing by the roentgen rays cannot be expected it is better to risk the deformity, or even to sacrifice the eyelid than to permit the disease to continue. If the disease involves the mucous membrane of the mouth it should be thoroughly destroyed, radium application should be made within the mouth, and deep roentgentherapy should be used by crossfiring methods externally and over the glandular area leading therefrom. If the disease also involves the jaw bone or the metastatic glands under the jaw, the surgeon should be called on to excise a portion or all or half of the jaw, or the metastatic glands when they are present. This should then be followed by active radium therapy internally and roentgentherapy externally. In these cases one can, to great advantage, utilize the whole four methods.

CONCLUSIONS

If the above principles and instructions are carried out skilfully and thoroughly, we may expect the following:

1. All superficial epitheliomata should be cured.

2. Practically all early epitheliomata of the lower lip will get well.
3. Most of the epitheliomata within the mouth, if treated early, may be expected to get well. If treated late, the results will be proportionate to the delay in instituting thorough combined treatment.
4. Carcinomata involving the breast should show twice as many recoveries as may now be expected from any single method of treatment.
5. Carcinoma of the uterus should give doubly good results as compared with any single method of treatment.
6. If the precancerous lesions, such as warts, moles, slowly healing ulcers, fissures and benign tumors are eliminated early, the number of cases of carcinoma needing treatment will be tremendously reduced.

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DISCUSSION

Dr. William L. Clark, Philadelphia: My conclusions as to the value of combined methods in the treatment of cancer are for the most part in accord with those of Dr. Pfahler. The results that he has shown are in line with my own, and I shall ask the privilege of demonstrating the sculptor method for the replacement of lost features, to amplify some of the points brought out by Dr. Pfahler, to call attention to some facts omitted, which seem important, and finally to show why I am not in agreement with one statement he has made.

Success in the treatment of malignant disease depends much on the type of cells constituting the growth, on localization and anatomic location, and on total ablation of every vestige of cancerous tissue by whatever method is employed. Roentgen rays and radium must be considered only as adjuncts to either surgery or electrothermic destruction. When combined methods are employed results have been shown in some cases to be better than when one method is used alone. I am opposed to the practice of excising a piece of malignant tissue for pathologic examination and waiting days or weeks for a report before deciding on the treatment of the case. If a pathologic examination seems necessary, it should be done by frozen section immediately before operation or electrothermic destruction. Opening blood and lympth channels favors rapid extension or metastasis, and I have seen numerous cases in which this has occurred.

The results of treatment of basal-cell epitheliomas or rodent ulcers involving cutaneous surfaces, even though advanced, have been practically 100 per cent. successful, in both Dr. Pfahler's experience and my own. The results with squamous-cell epitheliomas involving mucous membranes have been only slightly less successful, when localized, but for the most part discouraging in my own experience when true metastasis had taken place, by whatever treatment or combination of treatments employed.

Dr. Pfahler has shown cases of cancer of the mouth with metastasis to the cervical glands in which permanently good results have been obtained when treated by combined methods. Though my experience has been the same in many cases of the types shown by Dr. Pfahler, I believe many of the glands were merely inflammatory enlargements and not true malignant metastasis. I have no case in which I can say positively that a cure was obtained with true metastasis. It is true cases with glands as large as lemons have gotten well, but this seemed to prove to me that the glands were only inflammatory.

I do not desire to be dogmatic in this statement, or to detract from the results shown, but I have seen so many rapid recurrences after excision and roentgen-ray treatment of even early malignant glands, that I am forced to the opinion that when a cure results the glands were not really malignant. I should say that before claiming a cure the glands should be subjected to a careful pathologic study and all doubt removed. The sentiment of many of our best pathologists is in accord with this view. They say that glands are natural defenses and their removal breaks down these defenses and whatever chance the patient had before removal is taken away from him with removal. Lymphatic ducts, which normally drain into glands, drain into the tissues on removal of glands, and in the case of malignancy all the tissues of the neck, or wherever located, soon become involved. I have seen this occur in many cases. This is a phase of the cancer question which will bear study.

I do not agree with Dr. Pfahler that the roentgen rays and radium produce better cosmetic results in epitheliomas of the eyelids than the electrothermic treatment. I have used all methods in these cases, which now number over two hundred and fifty. My curative and cosmetic results by the electrodesiccation method have been more constant than by other methods. If care is taken and the thermic degree not too high, a contracted cicatrix will not result and there will even be regeneration of healthy tissue. Indeed, epitheliomas or sarcomas on the cornea may be treated without difficulty or danger by the desiccation method, so perfect is the control of the current.

I agree most heartily with Dr. Pfahler that success in the treatment of malignant diseases by combined methods depends largely on experience and proper technical application.

Dr. G. Betton Massey, Philadelphia: The question as to what shall be done with enlarged glands secondary to cancer of the tongue, mucous membrane of the mouth and the lip is a very serious one. It is gratifying to me to find that both the speakers, or at least the second speaker, has arrived at a decision that I formed some years ago, and that is, that, after all, the destructive method is better than excision if any method is available other than the roentgen ray. For a number of years I turned over enlarged gland cases to medical colleagues for excision, but I must say that, like Dr. Clark, I have not seen any successful removal. The brawny return is characteristic, showing that it is a true recurrence rather than an involvement of other glands. But I do think that the method that I have so many times presented to this society, I believe as far back as 1897, at the Chambersburg meeting, in which a lower-tension current is used than the current used by Dr. Pfahler, is particularly advantageous in the enlarged glands that are still movable in the neck. The reason is that you can handle both the electrodes. In the high frequency current you are using thousands of volts in order to get two amperes of current and you cannot bring the electrodes together because of the sparking. I have found the most successful removal of these glands to be not to incise the skin, but, after the destruction of the primary growth in the mouth or lip, to pick up the gland with its overlying skin and pass a loup of thread beneath it by which it may be pulled away from the blood vessels. With several zinc points then passed beneath the gland and the opposite pole held on the skin over the gland, a current of half an ampere to an ampere is turned on and the gland is cooked or destroyed entirely in ten or fifteen seconds. The special advantages of this method over that which has been described by Dr. Pfahler is that you can handle two or more opposite polar electrodes close together; there is no danger of igniting the ether, and more delicate work can be done. The heat developed is purely a function of the volume of the current, and is the same for similar amperages whether alternating or direct. It is very pleasant to me to see this fine demonstration of what I have claimed all along—that what you want to do is to destroy cancer *in situ*.

Dr. William L. Estes, South Bethlehem: I would like to ask Dr. Pfahler if he has had equally good success with other carcinomata, the scirrhous, encephaloid, and also sarcomata. I think all the cases he showed were epitheliomata. Is it possible to have anything like the success in other forms of cancer?

Dr. Pfahler, closing: I will answer the last speaker's question first. My preliminary statement, that we cannot use the method excepting in those cases in which the disease can be destroyed completely, locally, without regard to saving blood vessels or nerves in the diseased area, will answer the doctor's question pretty well. Generally deep-seated carcinoma is located in the neighborhood of important blood vessels. Taking the breast as an example, you could destroy it, but what would you do with the glands in the axilla? There you must take care of the blood vessels and nerves. Dr. Rodman brought to me a scirrhous carcinoma of the breast which he regarded as hopeless because it was firmly adherent to the intercostal muscles. That is the only case I considered operable from the standpoint of coagulation. I destroyed that locally and followed with thorough roentgen-ray treatment. The woman lived over two years apparently well and died of apoplexy suddenly. I believe she got well of her carcinoma. Generally speaking, the answer to your question would be, no. In regard to surgical dissection of the metastatic glands from the neck, Dr. Clark said he had never seen a case get well. I showed two this afternoon which I believe are well. The same was true of the man from whom half the lower jaw was resected, and that man is well two and a half years after the operation. I believe with those who have dealt with much malignant disease that, when you have metastatic glands and remove them, if you do not get recurrence within two or three years you are not likely to have it. I believe in answering Dr. Massey's discussion, the two cases I showed here illustrate the danger of trying to destroy the disease by electrocoagulation. Those glands were so adherent to the vessels of the neck that the surgeons could not remove them, and it would have been more dangerous to attempt local electrocoagulation. The amount of destruction depends on the judgment and skill of the operator.

INVESTIGATION OF AN ALLEGED EPIDEMIC OF "PSITTACOSIS" IN WILKES-BARRE, PA., MARCH, 1917 *

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EXPLANATORY NOTE OF JANUARY, 1919

In the December, 1918, issue of the Pennsylvania Medical Journal there appeared an article by Dr. A. T. McClintock of Wilkes-Barre, concerning the "Deposition and Distribution in a Community of a Form of Micro-organism Previously Foreign to the Community."

The printing of this article makes necessary the publication of the following report of an investigation conducted by the Department of Health of Pennsylvania at Wilkes-Barre in March, 1917. This paper was written at the time of the investigation and was intended for publication in the 1917 Annual Report of the State Department of Health (soon to be printed), but the misleading character of certain inferences to be drawn from Dr. McClintock's paper makes it necessary to inform the physicians of Pennsylvania of the health department's investigation and its results.

We are not concerned with the "Bacteriologic Study" of Dr. McClintock, based on cases of human disease which he assumes to be psittacosis, but it is plainly our duty to inform the medical public that no cases of animal or human psittacosis were found in Wilkes-Barre at the time of the state's investigation and during the alleged outbreak and that none have been reported since.

It is also proper to state that Dr. McClintock was not in Wilkes-Barre at the time of the alleged epidemic and that his epidemiologic investigations were not conducted at the time. This part of his paper is made up of statements general in character, statements made, doubtless, in good faith but nevertheless in distinct discord with the facts. In this connection attention is invited to that part of our report which deals with diagnoses as furnished by the physicians of Wilkes-Barre concerned and the investigators sent from the state capitol in March, 1917.

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With Dr. McClintock's biologic speculations we take no issue, but the profession is entitled to the knowledge that the parrot material in his hands yielded entirely different results from similar material investigated at the state laboratory.

As an immediate result of the publication, in Wilkes-Barre newspapers in March, 1917, of accounts of a "mysterious disease of birds and men," city authorities elsewhere in Pennsylvania became alarmed and in one large city an exhaustive inquiry was conducted by the State Department of Health. The parrots were traced from city to city and health departments of other states were communicated with by the Pennsylvania authorities with the result that no prevailing disease other than pneumonia and the acute respiratory infections, influenzal, streptococcal or pneumococcal, commonly prevalent in the various cities of Pennsylvania at this season of the year, was found; with occasional typhoid and paratyphoid fevers and the usual variety of winter ailments. Parrots were as definitely excluded as probable spreaders of disease as were other domestic animals or pets.

Careful reading of Dr. McClintock's paper brings the conviction that he has neither established the fact of "deposition" nor the mechanism of deposition or distribution, of a disease-producing virus or "activated bacterial protoplasm from parrots" as he states in his paper. Most interesting is his inferential incrimination of this highly metamorphotic organism, "virus" or bacterial protoplasm in cases of patients found, at necropsy, to have died from nephritis, pneumonia, meningitis (suppurative and nonsuppurative), enteritis, hemorrhagic bronchitis, duodenitis, gonorrheal prostatitis and septicemia, and peritonitis and septicemia following cesarean section.

Especially suggestive is his contention that the bacterial flora of an entire community has been changed by the chance visit of a parrot vendor to a community. It seems unlikely that this contention will be taken seriously.

The pandemic presence of influenza throughout the country and the recent extraordinary opportunities afforded the writers in seeing cases, literally by the thousand, strengthens, in a powerful manner, our belief that the cases pronounced influenza in our Wilkes-Barre survey of 1917 were properly designated. There is no lack of evidence to indicate that influenza has been present in seasonal epidemics in various parts of the United States in recent years, previous to its present pandemic manifestation.

REPORT OF INVESTIGATORS

On March 21, 1917, the medical inspector of Luzerne County, communicated with the state commissioner of health concerning an outbreak of disease then prevalent in Wilkes-Barre and vicinity and believed by a number of local physicians and by many of the laity to be connected with a sale of parrots held at a Wilkes-Barre department store on the second and third days of March.

An appeal for an investigation by representatives of the State Department of Health was made. Accordingly the commissioner sent two of us (T. W. J. and H. L. H.) to Wilkes-Barre where we cooperated with the county medical inspector and the Wilkes-Barre Board of Health in conducting a clinical investigation which covered four days of continuous work, and was supplemented by the collection of various specimens for laboratory examination. This collection was made during the clinical investigation and subsequent thereto. The laboratory findings reported by one of us (J. B. R.) are appended to this report and those furnished by local laboratory workers in the course of our investigations are noted on the clinical histories furnished herewith.

On the day of our arrival in Wilkes-Barre, at a meeting of the local medical society at which two of us were present (T. W. J. and H. L. H.), there occurred a general discussion by physicians of the city who described certain puzzling cases, called attention to the presence of an unusual number of parrots in Wilkes-Barre introduced through the local sale referred to above, and commented on the number of parrots that had recently sickened or died, some of them in households where human sickness subsequently occurred. One physician present read from a medical volume a description of the disease "psittacosis" and there followed at once a rather general acceptance of the view that the described disease was the one then prevalent in Wilkes-Barre. It was also predicted by one of the local physicians that the Wilkes-Barre epidemic would go down in history as the greatest "human epidemic of parrot disease" on record.

Up to this time there had been comparatively little examination of patients by physicians other than those in attendance on the individual cases. The newspapers had featured the parrot sale and the existence of a number of cases of sickness among employees of the department store in which the birds were sold. Special stress was laid on the statement that the disease was strange and baffling and that local physicians were greatly puzzled. The department store was practically boycotted and many rumors were abroad.

At a later meeting of the medical society in Wilkes-Barre, on May 2, 1917, a certain resolution contrary in tenor to the findings of the investigators for the State Department of Health was offered "as the sense of the society" and although this resolution was laid on the table by vote of the society, it is thought best to publish the results of our investigations in the Annual Report of the Commissioner. Accordingly our conclusions are herewith stated and the clinical and laboratory evidence on which they are based follow.

In our opinion there is an absence of evidence, either actual or presumptive, that parrots introduced influenza, infectious bronchopneumonia, lobar pneumonia, paratyphoid fever or "psittacosis" into Wilkes-Barre. There is evidence that the cases of human disease prevailing in Wilkes-Barre at the time of our investigations were *not* cases of "psittacosis."

While certain obscure cases occurred, the differential diagnosis in all instances seemed to lie between diseases perfectly well known and common enough in this season and latitude.

It was perfectly apparent, from an analysis of the cases seen, that most of them were ordinary seasonal ailments, covering a fairly wide range and embracing several of the diseases prevalent in cities in winter and early spring months, together with numerous cases of influenza, which was plainly epidemic at the time.

It does not reflect on the skill of any members of the medical profession of Wilkes-Barre to say that under ordinary circumstances (that is without the accompaniment of a parrot importation), most of these cases would have been diagnosed with as little hesitancy and as much accuracy as attends clinical diagnosis elsewhere. The psychologic effect of the public state of mind, due to rumors and press reports, was surely reflected, however, in a certain hesitancy to offer diagnosis.

The following tabulation is one of twenty-five cases seen by two of the state investigators in company with, or by consent of, the attending physicians and the diagnoses submitted are those agreed on at the time. In five of the cases seen our diagnosis was not concurred in by the attending physician; in two of these cases no alternative diagnosis was offered, and in the other three the diagnosis of "psittacosis" or "parrot disease" was insisted on by the attending physician. These three cases were the only ones of some seventy-five seen or reported, in which the attending physician ventured the definite diagnosis of parrot disease.

CLINICAL AND LABORATORY NOTES ON TWENTY-FIVE CASES[1]

Case 1.—Miss T., aged 19; employed in "X" department store; patient of Dr. M.; no direct contact with parrots; onset gradual, no vomiting; no eruption; Widal test, negative; fever, remittent type (100 to 104 F.); no chill; no diarrhea; no record of sputum. Congested throat; duration of fever, six days; pneumonia not present. Blood culture, negative; urine, trace albumin; hemoglobin, 62 per cent. (Talquist); red blood cells, 3,100,000; white blood cells polynuclears, 62 per cent.; lymphocytes, 31 per cent.; others, 7 per cent. Previous diagnosis, undetermined; our diagnosis, *influenza*.

Case 2.—J. B., male, aged 25; employed in "X" department store; patient of Dr. M. No direct contact with parrots; onset, headache. Eruption, abdominal roseola; epistaxis; Widal test, positive by D. L. of Sayre, two other Widal tests negative for typhoid and paratyphoid A and B. Fever, continued; no chill; diarrhea, tympanites present. Cough, yes; no record of sputum; no sore throat. Duration of fever, two weeks when seen; pneumonia present, small area demonstrable, right side lower chest. Urine, negative; blood culture, negative; leukocytes, 6,900. Previous diagnosis, undetermined; our diagnosis, *typhoid fever*.

Case 3.—Mrs. M. W., adult; employed in "X" department store; patient of Dr. M. No direct contact with parrots; onset gradual, headache. Eruption, acne; Widal test, negative, also to paratyphoid A and B. Fever, at present, continued, declining, relapse one week; chill, yes; diarrhea, no, constipation. No record of sputum; no sore throat. Duration of fever, "?"; pneumonia not present. Urine, 1.020, acid, no albumin, no sugar. Blood culture, negative; white blood cells, 6,400; differential white blood cells, 64 per cent., + leukocytes, 18 per cent.; all others 18 per cent. Previous diagnosis, undetermined; our diagnosis, *influenza*.

Case 4.—Father X., adult; parish priest. Direct contact with a parrot sick in house, living bird sent to department laboratory for study. Onset, sudden; erupton, no; Widal test, negative. Fever, variable, relapse after partial recovery, moderate range; chill, yes; diarrhea, no. Sputum, no record; sore throat, yes; cough, yes, bronchial and tracheal. Duration of fever, one week. Our diagnosis, *influenza*.

Case 5.—Mrs. Y., adult; employed at housework; patient of Dr. B. No direct contact with parrots, visited department store. Onset, headache; eruption, no; Widal test, negative. Fever, variable; chill, yes; diarrhea, no. Cough, yes; sputum, yes, rusty. No sore throat; duration of fever, ten days; pneumonia, probably previous to examination. Urine, negative; blood culture, negative. Previous diagnosis, influenza with probable pneumonia; our diagnosis, *influenza* with probable bronchopneumonia, convalescent.

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[1] "Negative" indicated by —. "No data" indicated by "?".

Case 6.—Mrs. D. S., adult; employed at housework; patient of Dr. B. No direct contact with parrots, visited department store. Onset, headache; eruption, no; Widal test, negative (2). Fever, variable, relapsing; chill, yes; diarrhea, yes. Cough, "?"; sputum, no record; sore throat, no record. Duration of fever, eighteen days; pneumonia, not present. Urine, negative; blood culture, negative. Previous diagnosis, influenza; our diagnosis, *influenza,* abdominal type.

Case 7.—Mr. B., adult; employed in "?"; patient of Dr. T. Contact with parrots, family had one. Onset, coryza, cough, headache and backache. Eruption, no; Widal test, negative; fever, continued; chill, no record; diarrhea, no, constipation. Cough, yes; sputum, "?"; sore throat, no. Duration of fever, "?"; pneumonia not present. Urine, —; blood culture, —. Previous diagnosis, undetermined; our diagnosis, *influenza* (B. family group).

Case 8.—Mrs. B., adult; home; patient of Dr. T. Contact with parrots, family had one. Onset, coryza, cough, headache and backache. Eruption, no; Widal test, negative; fever, variable; chill, no record; diarrhea, yes. Cough, "?"; sputum, "?"; sore throat, "?"; duration of fever, "?"; pneumonia not present. Urine, —; blood culture, —. Previous diagnosis, undetermined; our diagnosis, *influenza,* abdominal type. (B. family group.)

Case 9.—Maid of Mrs. B., adult; employed at housework; patient of Dr. T. Contact with parrots, family had one. Onset, gradual; eruption, no; Widal test, negative; fever, no record; chill, yes; diarrhea, no. Cough, yes; sputum, "?"; sore throat, "?"; duration of fever, "?"; pneumonia not present. Urine, —; blood culture, —. Previous diagnosis, undetermined; our diagnosis, *influenza* developing. (B. family group. See Cases 7 and 8.)

Note.—A child of the B. family was taken sick with sore throat February 23, one week *before* parrot was bought. Tonsillitis and laryngitis were present. This case was the first one of this influenzal family epidemic.

Cases 7, 8 and 9 are cases of a house (family) epidemic representing two types of influenza in same family.

Case 10.—M. W., male, adult; employed in "?"; patient of Dr. G. Contact with parrots, bought one. Onset, acute; eruption, no; Widal test, not made; fever, continued high range; chill, yes; diarrhea, "?." Cough, yes; sputum, yes, rusty; sore throat, no; duration of fever, six days; pneumonia present, yes. Urine, "?"; blood culture, "?." Previous diagnosis, pneumonia; our diagnosis, *acute lobar pneumonia.*

Case 11.—R. A. S., male, adult; employed in "?"; patient of Dr. D. Contact with parrots, none. Onset, gradual; eruption, no; Widal test, negative; fever, hectic type; chill, "?"; diarrhea, no. Cough, yes; sputum, "?"; sore throat, "?"; duration of fever, indefinite; pneumonia not present. Urine, —; blood, —. Previous diagnosis, "?" (final diagnosis of Dr. D., May 2, probable tuberculosis); our diagnosis, *undetermined* (possibly tuberculosis).

Case 12.—N. M., female, adult; employed in "?"; patient at Mercy Hospital. No direct contact with parrots (visited store during sale). Onset, acute; eruption, no; Widal test, "?"; fever, 102 F., rising; chill, yes; diarrhea, no. Cough, "?"; sputum, coppercolored from tonsil abscess; sore throat, yes; duration of fever, one day; pneumonia not present. Urine, —; blood culture, —. Previous diagnosis, quinsy; our diagnosis, *quinsy.*

Case 13.—Mrs. A., aged 61; home; patient of Dr. S. Contact with parrots, had a parrot thirteen days, parrot died. Onset, acute, chills, headache and pains in limbs; eruption, no; Widal test, negative; fever, continued, high range; chills, yes; diarrhea, yes (severe). Cough, yes; sputum, "?"; sore throat, —. Urine, "?"; blood culture, "?" Previous diagnosis, "?"; our diagnosis, *bronchopneumonia.* (A. family group.)

Case 14.—Mr. A., aged 60; employed in "?"; patient of Dr. S. Contact with parrots, had a parrot thirteen days, parrot died. Onset, acute; eruption, no; Widal test, negative; fever, sharp; chill, "?"; diarrhea, no. Cough, yes; sputum, yes; sore throat, "?"; duration of fever, three days; pneumonia present, yes. Urine, —; blood culture, —. Previous diagnosis, "?"; our diagnosis, *bronchopneumonia.* (A. family group.)

Case 15.—Mrs. H., adult; at home; patient of Dr. R. No contact with parrots, visited store during sale. Onset, acute, with severe headache; eruption, no; Widal test, "?"; fever, 103 F., prostrating; chill, yes; diarrhea, no. Cough, yes; sputum, no; sore throat, no; duration of fever, one week; pneumonia not present. Urine, —; blood culture, —. Previous diagnosis, influenza; our diagnosis, *influenza.*

Case 16.—Mrs. H., aged 50; at home; patient of Dr. T. No contact with parrots. Onset, gradual; eruption, no; Widal test, negative; fever, continued; chill, no; diarrhea, yes. Cough, no; sputum, none; sore throat, no; duration of fever, two weeks; pneumonia not present. Urine, negative; blood culture, negative to typhoid and paratyphoid A and B. Previous diagnosis, influenza or typhoid; our diagnosis, *abdominal influenza or paratyphoid* (clinical).

Case 17.—Mrs. L. McD., adult; employed in "X" department store; patient of Dr. M. No direct contact with parrots, did not own parrot. Onset, acute; eruption, no; Widal test, negative; fever, high to 104 F.; chill, yes; diarrhea, no, constipation. Cough, yes; sputum, rusty; sore throat, no; duration of fever, one week; pneumonia present. Urine, not examined; blood culture, not made. Previous diagnosis, pneumonia, left lower lobe; our diagnosis, *acute lobar pneumonia.*

Case 18.—E. E., female, aged about 20; employed in "X" department store; patient of Dr. M. No direct contact with parrots. Onset, acute; eruption, none; Widal test, "?"; fever, moderate; chill, yes; diarrhea, no. Cough, yes, dry; sputum, no; sore throat, no. Urine, not examined; blood culture, not made. Previous diagnosis, influenza; our diagnosis, *influenza.*

Case 19.—Z., male, aged 32; employed in machine shop; patient of Dr. W. Contact with parrots, bitten on finger by his own parrot bought at sale. Onset, gradual, pain in the side; eruption, no; Widal test, "?"; fever, moderate; chill, no; diarrhea, no. Cough, yes; sputum, clear; sore throat, no; duration of fever, one week; pneumonia not present. Urine, not examined; blood culture, not made. Previous diagnosis, pleurisy with effusion; our diagnosis, *pleurisy with effusion.* (Others in house not sick.)

Case 20.—A. McG., female, adult; employed in basement of "X" department store; patient of Dr. H. No direct contact with parrots, did not sell or handle parrots. Onset, acute, headache; eruption, fine papular on chest and abdomen; Widal test, negative; fever, continued, 100 to 103 F.; chill, yes; diarrhea, no. Cough, yes; sputum, yes; sore throat, yes; duration of fever, one week; pneumonia present, probably. Urine, no report; blood culture, not made. Previous diagnosis, "psittacosis"; our diagnosis, *influenza with bronchopneumonia.*

Case 21.—T. E., male, aged 68; employed in "X" department store; patient of Dr. H. Contact with parrots, ran elevator and carried parrot cages. Onset, acute; eruption, no; Widal test, "?"; fever, continued; chill, yes; diarrhea, no. Cough, yes; sputum, rusty; sore throat, yes; duration of fever, seven days; pneumonia present, yes, right upper lobe. Urine, no report; blood culture, not made. Previous diagnosis, "psittacosis"; our diagnosis, *lobar pneumonia, migratory type.*

Case 22.—P., male, aged 25; recovered case; employed in "X" department store (window trimmer). Contact with parrots, none (ill before parrots arrived in town). Onset, February 7; eruption, no; convalescent three weeks when seen. History tends to confirm physician's diagnosis. Previous diagnosis, grip and pleurisy; our diagnosis, *grip and pleurisy.*

Case 23.—J. C., male, aged 40; employed in "X" department store; patient of Dr. S. No direct contact with the parrots (ill before parrots arrived in town). Onset, February 7; eruption, no; convalescent two weeks when seen. History tends to confirm physician's diagnosis. Previous diagnosis, grip; our diagnosis, *grip.*

Case 24.—M. C., male; employed in "X" department store; patient of Dr. W. No direct contact with parrots. Onset, gradual; eruption, no; Widal test (three), negative, also for paratyphoid A and B; fever, continued; chill, "?"; diarrhea, "?". Cough, "?"; sputum, "?"; sore throat, "?"; duration of fever, two weeks; pneumonia not present. Urine, negative; blood culture, negative; stool culture, negative. Previous diagnosis, paratyphoid (clinical) by Dr. H. B., consultant from New York, and by Dr. R., consultant from Philadelphia; our diagnosis, *paratyphoid or abdominal influenza.*

Case 25.—J. L., female, aged 19; employed in "X" department store; patient of Dr. G. No direct contact with the parrots. Onset, gradual; eruption, rose spots on abdomen; Widal test, negative; fever, continued; chill, "?"; diarrhea, "?". Cough, "?"; sputum, "?"; sore throat, "?"; duration of fever, ten days; pneumonia not present. Urine, negative; blood culture, negative. Previous diagnosis, typhoid; our diagnosis, *typhoid* (clinical).

DIAGNOSTIC NOTES ON FIFTY CASES REPORTED BY WILKES-BARRE PHYSICIANS

The names and diagnoses of the following fifty cases were reported to the Wilkes-Barre Department of Health (on its request), by the physicians of Wilkes-Barre. The department made an effort to locate and register every case of disease which might be related, even remotely, to the epidemic in question. Diagnosis is recorded in every case as furnished by the attending physician.

The cases are as follows:

Undetermined diagnosis	18
Grip and influenza	22
Pneumonia	5
Tonsillitis	1
Pleurisy	2
Ptomaine poisoning	1
Paralysis	1
Total	50

Names and diagnoses furnished to investigators by physicians of Wilkes-Barre. These cases were not seen by the state physicians. Local diagnoses were accepted. No changes were made in terms or findings of local doctors.

	Initials of Patients	Initials of Doctors	Diagnosis
1	Mrs. E. J.	Dr. C.	Pneumonia
2	E. M.	Dr. McG.	Grip
3	B. A.	Dr. C.	Grip
4	B. A. (26 Hazle)	Dr. B.	Undetermined
5	Mrs. J. G.	Dr. C. S.	Pneumonia
6	Mrs. R. H.	Dr. H. J.	Undetermined
7	M. B.	Dr. E. R.	Pleurisy
8	M. K.	Dr. C.	Undetermined
9	D. (32)	Dr. W.	Undetermined
10	Mrs. H.	Dr. G.	Influenza
11	V. H.	Dr. Y.	Grip and influenza
12	G. H. T.	Dr. F.	Severe influenza
13	S. C.	Dr. F.	Influenza
14	C. W.	Dr. A.	Influenza
15	W. M.	Dr. G.	Influenza
16	A. M.	Dr. G.	Influenza
17	M. B.	Dr. G.	Tonsillitis
18	Mrs. A.	Dr. W.	Grip
19	Miss B.	Dr. W.	Grip
20	E. R.	Dr. W.	Grip
21	R. Y.	Dr. W.	Undetermined
22	J. H.	Dr. W.	Pleurisy
23	Mrs. M. W.	City Hospital	Influenza
24	M. W.	Dr. G.	Pneumonia
25	J. M.	Dr. C.	Undetermined
26	H. M.	Dr. K.	Complications (partial paralysis)
27	C. W.	Dr. M.	Undetermined
28	F. S.	Dr. M.	Ptomaine poisoning
29	Mrs. F. C.	Dr. A.	Undetermined
30	E. M.	Dr. A.	Undetermined
31	Mrs. C. D.	Dr. A.	Undetermined
32	D.	Dr. A.	Undetermined
33	L. P.	Dr. D.	Pneumonia
34	G. E.	Dr. D.	Undetermined
35	M. K.	Dr. D.	Influenza (as near as possible)
36	T. McG.	Dr. D.	Pneumonia
37	Dearie	Dr. R.	Grip
38	Mrs. C. Van H.	Dr. M.	Grip
39	J. G.	Dr. C.	Undetermined
40	A. M.	Dr. R.	Grip
41	E. S.	Dr. R.	Grip
42	Mr. MacW.	Dr. W.	Undetermined
43	J. McD.	Dr. H.	Undetermined
44	J. McD.	Dr. H.	Undetermined
45	F. H.	Dr. H.	Undetermined
46	Mrs. R.	Dr. S.	Undetermined
47	A. C.	Dr. M.	Influenza
48	L. S.	Dr. M.	Influenza
49	M. S.	Dr. M.	Influenza
50	H. McG.	Dr. M.	Influenza

STATEMENT OF DIRECTOR OF LABORATORIES OF PENNSYLVANIA

The director of the laboratories of the State Department of Health makes the following statement under date of May 7, 1917, concerning specimens from seven human cases and two parrots sent to him from Wilkes-Barre during March and April, 1917:

"During March, Dr. M. of Wilkes-Barre sent specimens of blood from five patients on which the agglutination reaction was requested. We made them with seven different organisms of the *Bacillus typhosus* group, including the two types of *Bacillus paratyphosus* (A and B), the paracolon bacillus and *Bacillus enteritidis, Bacillus dysenteriae* and *Bacillus suisepticus.* The agglutination reaction was negative with all the members of this group in four cases, but in one case was positive to *Bacillus typhosus* only.

"Two specimens of feces were sent by Dr. M. and search was made for the *Bacillus psittacosis* and members of the typhoid-paracolon-dysentery group. None of these organisms were found.

"Dr. D. of Wilkes-Barre also sent a specimen of feces which we examined for the same group of organisms as we did in the case of Dr. M.'s two patients. None of these organisms were found.

"Three parrots were sent to us from Wilkes-Barre, one of these was so decomposed that no examination of any account could be made. In the two parrots of which examination was made we found the blood sterile. Noses and throats contained diplococci and staphylcocci, no rods. The feces of these parrots contained *B. coli,* staphylococci and diplococci. No organisms of the typhoid group, under which the *B. psittacosis* may be classed, were found."

NOTES ON TWO CASES IN WHICH A DIAGNOSIS OF PSITTACOSIS WAS OFFERED BY ATTENDING PHYSICIAN

The two following cases, although included in the tabulation of twenty-five patients seen by us, are separately reported, because they are the only cases seen by either of us in which a diagnosis of "parrot disease" was definitely offered. The attending physician regards these two cases (and one other which we did not see) as undoubted cases of psittacosis, the diagnosis being based entirely on his clinical findings. Both cases were seen by one of us (H. L. H.) in company with the attending physician.

CASE 1.—Miss A. McG., aged 18; worked in basement of "X" store; did not sell parrots; did not buy a parrot nor have one at home. Taken ill, March 11, with heavy or dull headache, especially severe behind the eyeballs, radiating over the head and later becoming severe in occipital region. There was some soreness of the scalp associated with the headache. Patient was nauseated but did not vomit; had a dry cough in the beginning and moderate rhinopharyngeal catarrah. There was severe pain in the back, especially in the thoracic and lumbar regions; soreness in the muscles and complaint of aching in the limbs. Patient complained much of soreness in the abdomen. Fever, following chilly sensations, was an early symptom (its range being from 100 to 103 F.) associated with rapid pulse and rapid respirations. There was complaint of sore throat as an early symptom. She had a fine papular rash on the chest, the remains of which looked like acne. Inasmuch as the patient had been taking aspirin in elixir of calisaya, it is barely possible that this was a drug eruption.

Dr. "X" states that the patient had a consolidation of the right upper lobe on March 18, which gradually disappeared on March 19. The patient had no rusty sputum, but reference to the temperature chart showed that during the period when the consolidation was alleged to have been present there was rapidity of respiration running as high as 36 to 38 or more per minute.

Dr. "X" regards this as an unquestioned case of psittacosis. To us it seems to correspond to influenza with a pulmonary complication. The rash may have been due to idiosyncrasy to certain drugs.

CASE 2.—Mr. T. E., aged 68; married; ran elevator in "X" store, carried parrot cages. On March 14 he came home feeling sick, weak and nauseated, having chilly sensations and being somewhat feverish. He was seen on March 17 by Dr. "X," at which time he had a severe cough with rapid respirations and a temperature of about 103 F. He complained of a very severe headache most marked about the region of the left temple. He also complained of muscular pains throughout the body and severe pain in the back, but "no stitch in the side." He shortly developed rusty sputum and his temperature ranged between 103 and 104 F. until March 19, when there was a crisis and temperature became normal. When first seen the physician stated that the lungs showed signs of congestion and later of consolidation of the right upper lobe. Following the crisis the patient was free from fever for some thirty-six hours when there was a second consolidation a little higher up than the first, followed by a second fall of temperature with resolution several days later. Patient complained of a severe sore throat, but the physician stated that he had not examined the throat and could not corroborate this statement.

At the time the patient was seen by one of us (H. L. H.) he was fully convalescent and merely showed some coarse râles in scattered areas over the chest, especially on the right side.

The medical attendant regards this case as one of undoubted psittacosis. The patient's history, with sudden onset (development of the consolidation being noted several days after the initial symptoms without complaint of pain in the side), is strongly suggestive of a central lobar pneumonia, gradually reaching the periphery. The development of a second consolidation strongly suggests the migratory type of pneumonia. Certainly there was nothing in the history sufficiently unusual to warrant us in seeking an unusual diagnosis.

PUBLIC STATEMENT MADE BY STATE, COUNTY AND CITY HEALTH AUTHORITIES

After four days investigation the following statement was made by two of us (T. W. J. and H. L. H.) to the City Department of Health. It was specifically concurred in at the time by the County Medical Inspector and the City Department of Health and was given to the press by city authorities:

> "It is believed that the city officials of Wilkes-Barre and the public are entitled to know the conclusions reached, in so far as they relate to the alleged presence here of a menacing epidemic of a rare and unusual disease. In brief, no such menacing epidemic has been found. In view of the more or less fantastic press reports concerning the health situation in Wilkes-Barre, which have been sent abroad throughout the state and the country, it should be stated that a fairly complete sickness-survey in which state, county and city health officials and the local medical profession have cooperated, indicates that Wilkes-Barre has the usual number and variety of diseases common to cities of similar size, climate and latitude at this time of year. A fairly severe epidemic of influenza or grip with cases of the three common types (cerebral, respiratory and abdominal), has prevailed for some weeks past and is apparently abating.
>
> "These cases with the usual complications, a number of cases of lobar pneumonia and bronchopneumonia, a few cases of the typhoid group of diseases, and the every-day run of functional disturbances make up the greater part of the diseases seen and studied. No mysterious ailments were seen, although the ordinary percentage of conditions was observed which require more than a casual visit for diagnosis. No cases of typhus fever or imported tropical diseases were seen."

In the same statement the public was reassured of its safety in visiting the department stores of the city and a word of caution against public hysteria was offered, together with some advice to the laity as to measures which they might take to guard against influenzal infections.

To these conclusions may be added here a few remarks which seem pertinent to the case. We have not, of course, a complete record of every case of sickness in Wilkes-Barre at the time of our investigation, but general notice of our work and our desire to see every suspicious case of sickness was given out and there was a large response from the profession. Neither influenza nor "parrot disease" are reportable by law and therefere the local department of health in its effort to aid us called up nearly every physician in town, requesting information bearing on the situation. It may be assumed, therefore, that few cases escaped our knowledge. The collection of laboratory material was as inclusive as it could well be made under the circumstances. The existence of the epidemic was not known to us until the day of our arrival in Wilkes-Barre and at that time it had passed its height and many of the persons involved were convalescent or entirely recovered.

The fact that a number of parrots died is fairly well explained by the severe cold weather in which the birds were shipped and received. Some of them were said to be frozen to death (according to statements made in Wilkes-Barre during our investigation), and it is very likely that deaths arose from exposure.

The health authorities of Wilkes-Barre stated that influenza had been epidemic prior to the arrival of the parrots; more than this, there had been cases of illness of a similar character among the employees of the store in question before the birds arrived in the city or at the store. Another interesting fact is that few of the employees who were in most intimate contact with the parrots were taken sick and the one young woman, who cared for the sick parrots, remained perfectly well.

The parrots which were not sold were shipped to Binghamton, N. Y., where a similar sale was held in a department store, two days after the Wilkes-Barre sale.

At the time of our inquiry in Wilkes-Barre and as recently as May 20, 1917, we were assured by the health officer of Binghamton that no unusual cases of disease or obscure diagnosis had occurred in that city. Accompanying these statements were official health reports of the city for the period in question.

We may, therefore, dismiss Binghamton from our consideration.

On March 8 and 9 a fashion display of spring styles and a spring opening with living models from New York City was held on the third floor of the Wilkes-Barre department store, attracting a very large attendance of persons who were crowded in close contact on one of the least ventilated store floors. This provided ideal conditions for the spread of epidemic influenza throughout the store, as many of the employees repeatedly visited the display and mingled in the crowd. This probably played a part in speading influenza among the store employees. This display was four days after the parrot sale and after the birds had been shipped away. It constituted an ideal influenzal exposure of a large number of those employed in the store.

LITERATURE ON PSITTACOSIS—PERSONAL COMMUNICATION

In view of the uncertain place which "psittacosis," the disease, and *B. psittacosis,* the organism, hold in medical and bacteriologic literature and the scarcity of authentic references to them, we have had a search of the literature made for important articles and a translation by one of us (J. B. R.) of a French description of the organism described by Nocard.

In addition we present through the kindness of Dr. H. Zinsser, professor of bacteriology, College of Physicians and Surgeons, New York City, a summary by H. Weiss, based on a review of the literature and long personal study of the group to which *B. psittacosis* is consigned by common consent. This personal communication is of special interest and is as follows:

(PERSONAL COMMUNICATION FROM H. WEISS, BACTERIOLOGIC LABORATORIES OF COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY, NEW YORK CITY)

"As regards the epidemiology of psittacosis, there is evidence that such epidemics have occurred, but the evidence is all circumstantial and not based on complete bacteriologic findings. Delamarre and Descazalo report an epidemic in a family. A parrot, which had been recently bought, had died. Four people became ill with symptoms of typhoid and bronchopneumonia. One died. All the blood tests were sterile.

"Probably the most interesting epidemic is the one reported in France in 1892 by Dujardin-Beaumetz. Two importers had shipped 500 parrots to France. Three hundred died en route. The remaining 200 were divided evenly between the two importers and taken to different localities. Two separate epidemics were started. Forty-two people became ill, fourteen of whom died. The writers described it as 'pneumonie grippale infectieuse.' They, however, did not at first consider the parrots as the source of infection but simply as intermediate carriers. Later they changed their opinion with the discovery one year later (1893) of the *Bacillus psittacosis* of Nocard. He describes it as a short, thick bacillus with rounded ends, very motile, aerobic and facultatively anaerobic, gram-negative, nongelatine liquifying and pathogenic for pigeon, chicken, mouse, rabbit and guinea-pig. This, as you see, is the typical description of the paratyphoid or 'intermediate' group of bacilli.

"Another epidemic was reported by Malenchini. Six people in one family became ill, five of whom died. A parrot died in the family at about the same time.

"Regarding its identification, the only positive proof that a person has obtained or isolated the *B. psittacosis* is that it answers the description of Nocard and *has been isolated from a parrot.* Even if one should isolate an organism from a human source, which answers entirely the description of Nocard, there are so many other possibilities of its being some other type of related organism that one is not justified in calling it *B. psittacosis.* If an epidemic is raging at the time circumstantial evidence would point to such a conculsion, *but that is not bacteriologic proof.* Only serologic study will identify the organism and on the basis of work I have done it is unquestionably not sufficient to get cross-agglutination. The only positive proof is cross-agglutination adsorption between sera against *B. psittacosis* and the isolated organism.

"I can find no reference to the pleomorphism of *B. psittacosis.* If it conforms in this respect as it does in others to the paratyphoid group it is not pleomorphic. Neither does it, to my knowledge, possess chromogenic properties. The group reactions of the organism I do not believe have been worked out, but all characteristics point to its undoubted position in the paratyphoid group. If its serologic relationship to human paratyphoid is similar to the relationship between *B. typhii murium, B. cholerae suis, B. abortus* and the human paratyphoid strains, it is undoubtedly a distinct organism with distinct antigenic properties but closely related to the other members of the group.

"Isolation of paratyphoid organisms have been made from other animals, such as rabbits, guinea-pigs, cats, mice, chickens, hogs and mares."

(THE FOLLOWING DESCRIPTION IS TRANSLATED FROM THE FRENCH AND IS CONFIRMATORY OF THE FOREGOING REMARKS CONCERNING THE CHARACTER OF B. PSITTACOSIS)

BACILLUS OF PSITTACOSIS (BESON)

The name "psittacosis" is given to an infectious disease of parrots and parakeets, transmissible to man. Nocard discovered the etiologic factor of this disease. It is a bacillus which is very similar to the bacillus of Eberth. Psittacosis is transmissible from bird to man through touching the mouth with the beak, through contact with the feathers of the bird soiled with its dejections or from cages in which sick parrots have been confined. The disease is transmissible from man to man. The *Bacillus psittacosis* has been recovered from the bone marrow and the blood of sick parrots (Nocard). He found it only once in man who had died from psittacosis. It was recovered in pure culture from the heart's blood. Never has it been recovered from the saliva, the urine, the blood or the serous exudates in living objects. Achard and Bensaude are said to have recovered the bacillus of Nocard in two patients afflicted with a disease other than psittacosis (sternoclavicular abscess, purulent cystitis) and Gilbert and Fournier have isolated a micro-organism similar to that of Nocard from the intestinal contents of healthy parrots.

EXPERIMENTAL PSITTACOSIS

The parakeets and parrots are very susceptible to the bacillus of Nocard. Subcutaneous or intramuscular inoculations often fail but the birds die in a few days after intraperitoneal, intravenous and intratracheal injections or from ingestion of the organism after having presented the following symptoms: The bird is very indolent, is puffed up, his feathers are ruffled, and his wings hang down. He does not eat. There is continual somnolence and he suffers from diarrhea. It is the same with the mouse, the chicken and the pigeon. The rabbit and to a greater extent the guinea-pig are more resistant.

MORPHOLOGIC CHARACTERS

Microscopic Appearance.—The bacillus of Nocard is morphologically analogous to the bacillus of Eberth. It is a little rod rounded at the end, very motile, possessing from ten to a dozen flagella. It does not form spores. It takes the basic stains, but is not stained by the method of Gram.

Cultures.—The bacillus of Nocard may be cultured under the same conditions as the bacillus of Eberth. The characteristics of the cultures of the two bacilli are very much alike.

Bouillon.—At 37 degrees becomes turbid very rapidly, growth abundant with the formation of a very slight pellicle on the surface.

Gelatine.—Growth is a little more abundant than the growth of the bacillus of Eberth, very much like that of the *B. coli.*

Agar.—The same characters as that of Eberth bacillus.

Potato.—The growth is ordinarily thick, dark brown, similar to that of *B. coli.*

Milk.—There is no coagulation.

BIOLOGIC CHARACTERS

The bacillus of Nocard does not ferment the sugars and does not coagulate milk. It does not produce indol in peptone water. It will grow in phenol bouillon and develops slowly on Elsner's medium. It grows on the culture medium from which the bacillus of Eberth has been removed. It is agglutinated slightly by typhoid serum. Its agglutination is always less (Gilbert and Fournier); the difference in the intensity of the agglutination furnishes the diagnostic point between the two organisms (Widal and Sicard). The highest dilution in which the typhoid bacillus is agglutinable exerts no action on the bacillus of Nocard. The serum of individuals affected with psittacosis does not agglutinate the bacillus of Nocard (Gilbert and Fournier, Achard and Bensaude). However, according to Charles Nicolle, he obtained a positive serum reaction in one case. The *Bacillus psittacosis* energetically resists drying. Nocard found it in the marrow of the wing bones of parakeets dried for four months.

ISOLATION AND DIFFERENTIAL DIAGNOSIS

The bacillus of Nocard is isolated by the same methods which we use for isolating the typhoid bacillus.

The growth of the culture on the medium from which the *Bacillus typhosus* has been scratched, the appearance of the culture on potato, the pathogenic action on birds, the slightness of agglutination with typhosus serum, furnish the main points in differential diagnosis.

At the meeting of the local (Wilkes-Barre) society on May 2, some weeks after the completion of our investigation, a bacteriologist of Wilkes-Barre reported that he had recovered from parrots and human beings a virulent germ "causing a specific pathology." Some of the human material used was obtained from convalescent persons, who had undergone indirect contact with parrots; in other cases no contact was alleged, as in the case of a miner dying suddenly in a coal mine who was found, postmortem, to yield the peculiar organism described. A strong intimation was made that the organism reported on was *B. psittacosis,* but on account of the pleomorphism of the microorganism (coccal and bacillary transmutations), chromogenic properties (present at times, absent at others), unusual agglutinating properties with all kinds of sera, peculiar tinctorial qualities and other reported peculiarities, it would not appear to us that the organism under investigation was *B. psittacosis.* Moreover, the agglutination tests made in connection with the Wilkes-Barre cases do not conform in the least with the agglutinating phenomena described by the essayist of May 2.

Some of the human sources from which was obtained the organism described at Wilkes-Barre on May 2, were the same ones seen by us clinically in March and in which we concurred in the diagnoses made by the Wilkes-Barre physicians in attendance.

In the presentation of May 2, 1917, the essayist made no attempt to establish a history of parrot contact in certain cases. Moreover, acceptance of the organism which he isolated as the cause of the Wilkes-Barre cases also involves acceptance of one of two unlikely hypotheses, neither of which is even suggested in the recorded description of the rare disease, "psittacosis."

These hypotheses are (1) aerial convection of bacteria through long distances, and (2) the existence of human carriers who transmit disease without acquiring it.

A request for cultures of the isolated organism, as described in Wilkes-Barre on May 2, was answered May 17, 1917, with a statement that when the work was completed and the facts satisfactorily established, cultures would be submitted after preliminary publication. None have been furnished to the state laboratory at any time.

NEGATIVE REPORTS FROM OTHER CITIES AND STATES

In order to get the facts and in view of the spectacular and alarming reports sent forth by the newspapers, the commissioner of health undertook an inquiry in several states and cities to ascertain whether outbreaks of human disease in any way traceable to parrots had occurred in any places where the birds had been introduced into communities in numbers.

Accordingly, all bird dealers and shippers in any way connected with the parrots sent to Wilkes-Barre were interrogated and at various places investigations were made by state epidemiologists and local health officers. Reports, all negative in character, were received from Chicago and Peoria, Ill.; Jersey City, N. J.; Binghamton, N. Y., and New York City, N. Y., and the commissioner of health of Pennsylvania sent representatives to Reading, where a sale of parrots immediately preceded the Wilkes-Barre sale. An exhaustive investigation failed to disclose any cases of psittacosis, but identical conditions regarding epidemic influenza and pneumonia were found. Indeed, statistical reports showed that there was a decided prevalence of bronchopneumonia (now generally conceded to be a communicable disease) throughout eastern Pennsylvania, especially in the cities, at the time in question.

SELECTIONS

WHO WON THE WAR

"We won the war; we won the war," is reiterated daily in the press, and heard constantly on the street. The truth of the statement depends on whom we mean by "we." If we mean Belgium and France and Great Britain and Italy and Serbia and Roumania and Greece and Canada and Australia and New Zealand and South Africa and India and Russia and Japan and the United States, then it is true, veritably and everlastingly true. But even so, and true as that is, something else, deeper and profounder than these, won the war.

Civilization won the war. The vast and unweighable imponderables; man's innate love of life, his right to live unmolested, to own himself and shape his destiny; the unquenchable love of liberty, planted in his heart by his Creator, and nourished and developed by centuries of climbing, clambering endeavor, and his determination to leave the world to his posterity, a cleaner and a better place in which to live; these won the war.

It was these that threw Belgium across the path of the Hun, at the cost of her own immolation, holding him at bay for fourteen fateful, world-saving days.

It was these that transformed France and Frenchmen, and led her armies to unsurpassed endeavor, until they stood with their backs against the gates of Paris.

It was these that gave her Joffre and Foch at the first battle of the Marne, and gave their soldiers heart and valor to obey the order: "Now! Stand and die."

It was these that nerved Petain to cry at Verdun, "They shall not pass," and his troops to make the great pledge good by their dead bodies.

It was these that made peace-loving Britain, fierce as the lion on her coat-of-arms, and sent her sons to death on Flanders' fields, and Picardy's gory plains.

It was these that bade her call her distant children from earth's remotest bounds, and impel them to answer with their treasure and their lives.

It was these that gave "the Little Peoples" courage to loose their swords at the cost of devastation, murder, rape and subjugation.

It was these that impelled impotent Russia to two years of fierce endeavor ere the canker at her heart made her blood a poisoned stream.

It was these that kept Japan a sentinel on the eastern seas.

It was these that challenged us—late, but not too late, thank God—to bare our sword and lay our wealth and treasure on the altar, and to send our sons—dear as a mother's first-born child—to Chateau Thierry, Balleau Wood, St. Mihiel, and into the Argonne Forest, to yield their lives a ransom.

It was these that led men to sink their own ambitions, and the embattling nations to forget selfish pride and interest in the establishment of one supreme command, and cleared the way for Foch's matchless genius.

It was these that unlocked the world's treasures, and impelled it to mortgage the future for half a thousand years, that armies might be fed, munitions made, and cannon forged.

It was these that kept Freedom's ships afloat when death, unseen but imminent, coiled itself beneath the crest of every wave.

It was these that kept the heart of the world's motherhood from breaking, and filled the heart of the world's fatherhood with a resolve that did not falter.

It was these, here, in Great Britain, in France and in the world's most distant lands and islands, that won the war.

In a smaller sense, each people who gave and sacrificed won it, and there is glory and renown for every one—glory and renown enough for all.

In a smaller sense the war was won many times—at the Marne, at Verdun, and elsewhere almost without number.

But in a larger, fuller, more glorious sense, it was civilization, the soul of the race itself, that won it.

There should be an end to little claims and selfish pretentions; a willingness to share the common glory, and a determination to waste no time in petty bickerings.

As a result of the war, the world is wounded—wounded all but to its death. If it lives, there is work to do—work for all. A common need calls us now to the fields of peace, and the councils of the free, as yesterday it called us to the battlefield, far-flung and thunderous and red.

There must be common purpose, bravely shared, and long sustained, lest the dead, the whole world gave, shall have died in vain.—Hanly, in *National Enquirer*.

AN EFFICIENT SCRAP OF PAPER

Those who talk of foreign red tape and of how we Americans cut it are invited by June Richardson Lucas to consider the British hospital telegram, which serves also as passport, railroad and steamer ticket, and hospital permit. She writes in *The Modern Hospital* (Chicago, December):

"Englishmen can hurry with a skill and an efficiency that take even an American's breath away. When it comes to their fighting men they break all speed records. Thousands of men have died in the mud of Flanders—thousands have been wounded and sent home—but thousands have had to lie in those 'Halls of Glory,' the base hospitals behind the lines, and suffer—beyond the conception of any man—before the tide turns back toward life, or slips out in the gray dawn of Flanders, never to flow back. And the British fight to save those suffering men just as stubbornly as they fight to beat the enemy beyond the heavy cannonading a few kilometers away. . . . After the doctor's rounds, he sends a telegram asking her to come to such-and-such a base hospital to see Private ——. That very evening, perhaps in Devon, where the sun sinks low, a small boy comes running and puffing up the lane waving the precious paper; the door under the thatch stands open. She is there, waiting as the women are wating the world over today and the message says 'Come.' That is all she needs—that telegram is passport, railroad-ticket, busfare, Channel crossing, entrance to the war-zone, space on troop-train, pass into that long, low building where her 'love lies bleeding.' Yes, it's a wonderful highway the British build from the aching ward in Flanders to the cottage in Devonshire. Just a telegram—no bewildering officials, no hours of waiting outside important doors—just a telegram; and the next evening, at sunset, she is sitting by her man in Flanders as he sleeps for the first time because the tide has turned. Just a thin bit of blue paper—just a telegram."

THE CHALLENGE

On January 14, 1919, Representative John W. Vickerman of Allegheny County, member of the State Legislature, addressed the New Century Woman's Club (Philadelphia). He urged the establishment of Health Insurance in Pennsylvania, saying that "in the first Pennsylvania selective service call 46 per cent. of the men were unfit for service, while in the entire country the average rejected was only 29 per cent." The loss in wages to the industries of the state during the year by sickness, Mr. Vickerman stated, was $33,000,000. To offset this loss of $33,000,000 Mr. Vickerman proposes to collect from the taxpayers and consumers of this Commonwealth $75,000,000 annually, spend $45,000,000 of it in administering insurance and the remainder to pay for a state-wide glorified lodge practice (medical). Mr. Vickerman loses sight of the fact that 46 per cent. of Pennsylvania's men were unfit for service largely on account of the recent, as well as hereditary, effects of alcoholism, ignorance and poverty.

In the words of Dr. Francis Patton of Princeton University, speaking the same day before the Pittsburgh Chamber of Commerce, Mr. Vickerman is attempting to solve this problem "at the terminus, rather than at the source." Quoting Dr. Patton further, "We are studying pathology without any knowledge of physiology. Social workers climb the stairs of our tenements and speak feelingly of poverty and disease and crime, that trinity that always follows upon congestion of population. I am hoping for the return of individualism and the policy of personal and industrial development without government interference."

Dr. Patton in this last sentence must have had in mind the results, as seen today, of Bismarck's policy in Germany. It was the then Chancellor Bismarck who introduced into Germany the elaborate scheme of paternal socialism, inaugurated first by an old age pension act, followed by accident insurance and sick benefits, and so on through the final steps of state socialism. Germany is the most socialized nation in Europe: Germany is the pensioner's paradise.

Shall we of Pennsylvania continue in Bismarck's footsteps, going from accident insurance to old age pensions and health insurance? Or shall we, in the words of Arthur T. Hadley, president of Yale University, "enact measures which shall increase individual responsibility, giving us more self-reliance and discountenancing a system of morals or law which justifies an individual in looking to the community rather than to himself for support in age or infirmity"?

We trust that Mr. Vickerman realizes that all proposed schemes for Compulsory Health Insurance introduced into this country to date have successfully avoided any medical service, except to the unusually healthy; and that Mr. Vickerman will see to it that his health insurance scheme will include the very weak as well as the very strong; and, further, that it will provide for good pay to good physicians for good medical service to all. To meet these qualifications Mr. Vickerman must overcome the greed of the insurance companies that enter the scheme solely for the 20 to 35 per cent. profit to be made, while the doctor does the work. He must also overcome the selfishness of politicians who see in Compulsory Health Insurance only another state bureau of patronage similar to that of the Workmen's Compensation Act, with many salaries ranging from $10,000 per annum downward.

As for the taxpayers—the diminution of revenue occasioned by prohibition will make very unpopular new laws proposing tax increase. In all Health Insurance Acts introduced to date, the state contributes 20 per cent., the employer 40 per cent., and the insured 40 per cent., the latter accepting 60 per cent. charity. As for the social reformers—after two years of nation-wide prohibition, poverty, disease and crime will be so largely replaced by self-reliance, self-support and self-respect, that even the social reformers may have to work for a living.

Wait! Honorable Law Maker, wait!

THE ANSWER

We admit that public health is among the most important subjects before this commonwealth today, but we also submit the fact that compulsory health insurance begins at the top and leaves undisturbed the fundamental causes in the production of sickness. Does not the commonwealth enforce the laws of "safety first" against possible injury and death throughout our industries? Why, then, should we not enact and enforce laws providing for the prevention and spread of sickness? It is true that "a chain is as strong as its weakest link." Likewise, in the presence of epidemic disease, is it true that the health of a community is conserved just in so far as the laws of hygiene and prophylaxis are enforced in the community's poorest family or household. In other words, in the presence of contagion, the health of any community's best protected families is endangered by the cupidity, ignorance and carelessness of others; by the cupidity of those who offer for rent dwellings unfit for human habitation; by the ignorance of those who overcrowd and underventilate their dwellings; and, finally, by the carelessness of those who have from time immemorial ignored the rights of others and today break every known law of hygiene and quarantine.

Is this great problem to be solved merely by collecting from tax payers and consumers $75,000,000 each year, paying out $45,000,000 in administrative expense and the remainder for the treatment of sickness? Certainly not! It will be solved only when we recognize public health as our most precious possession and throw about it all the protective power contained in the one word *prevention*.

We refuse to be a party to a dreamy scheme that may provide in part for the treatment of sickness, but completely ignores the fundamental causes of sickness, namely, poverty and ignorance. Let our state legislature enact and enforce laws that will provide proper hours of work, sufficient pay and proper housing, laws that will do away with alcoholism, drug habits, prostitution and quackery.

This, then, should be the answer of organized medicine in this commonwealth to the latest challenge of European or state socialism, namely, compulsory health insurance. We, the members of the Medical Society of the State of Pennsylvania, with the powerful impetus behind us of seventy years of unselfish devotion to the cause of public health and preventive medicine, are anxious to continue our aid in educational measures, enforcement of health laws and the administration of recommendations by the State Bureau of Health, as well as to give freely of our services to those unable to pay.

We are, however, unqualifiedly opposed to insurance companies intervening further between physician and patient to administer insurance at a profit to themselves, but almost entirely at the expense of the physician—as has been our experience through two years' operation of the Workmen's Compensation Law. True Americanism, wholesome and inspiring, encouraging self-reliance and thrift, spurning paternalism and dependency, maintaining individualism in health or sickness, must prevail.

Thirty per cent. of the physicians in the State of Pennsylvania volunteered for service during the world war for liberty. More than two thousand of these physicians (average age forty years) remain to this day in our country's military service. In all fairness to their sacrifices: Wait! Honorable Law Maker, Wait!

BUSINESS IS BUSINESS

The medical profession should cease to give its moral support to the time-worn statement that the average income of a physician is $600 or $700 a year, and that the average physician collects but 35 to 50 per cent. of his earnings. These two statements may once have been true, but have not been true, we are sure, during the past decade. They, however, afford arguments for those who say that under compulsory health insurance physicians may be assured of an income of approximately $1,500 a year and collect 100 per cent. We must in this fight put up a bold front. We are law-abiding citizens, tax payers and statute supporters. Let us not be ashamed, then, to defend our economic rights. We may be a necessary evil, but never more needed than during the present war and the reconstructive days to come. We are not commercialized, nor do we propose to be socialized into a body of laborers. Let us expand; let us amalgamate and impress our will on our law makers, as always for the benefit of others, but this time including ourselves.

OUR JOURNAL

THE JOURNAL of our state society is your Journal, and as such is worthy of your support. Read it! Pass it along to your less fortunate medical neighbor. Support its advertisers; the firms and individuals using its advertising pages must prove high class before being admitted thereto. The receipts from our advertisers make it possible to furnish our JOURNAL to members of the state society at $1 per year.

OF INTEREST TO EVERY MEMBER

Members whose assessment is received by the secretary of this society on or before March 31 shall be entitled to all the privileges of this society for the current calendar year. One whose assessment is received after March 31 shall be entitled to all the privileges of this society, except that he shall not be entitled to any benefit from the Medical Defense Fund from January 1 up to the date of the receipt by the secretary of this society of his name and assessment.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported up to January 24:

Allegheny County: *New Members*—Robert Ayres, 328 Bailey Ave., Pittsburgh; Clarence P. Macdonald, 125 Beltzhoover Ave., S. S., Pittsburgh. *Deaths*—Bradford A. Booth (Univ. of Pittsburgh, '01) in Pittsburgh, January 13, aged 40, from heart disease; William F. Pollock (Western Reserve Univ., '71) in Pittsburgh, January 15, aged 79. *Removal*—Myrtle Jack from Beechview Ave., Pittsburgh, to R. 21, Stoneboro (Mercer County).

Berks County: *New Member*—Oscar E. Fox, 232 North Fifth St., Reading.

Cambria County: *Death*—George W. McCafferty, Jr. (Univ. of Pennsylvania, '93), of St. Michael, at Windber Hospital, December 13, aged 48, following an operation for appendicitis.

Carbon County: *Death*—Willoughby K. Kistler (Bellevue Hosp. Med. Coll., '70) in Lehighton, December 27, aged 72, from pneumonia.

Cumberland County: *New Member*—Milton M. Dougherty, Mechanicsburg. *Removal*—Enos K. Lefever from Boiling Springs to 630 South Hanover St., Carlisle.

Fayette County: *New Member*—William Warne, Dunbar.

Huntingdon County: *New Member*—H. L. Dovey, Bldg. No. 4, Boston Navy Yard, Boston, Mass. *Removal*—Earl S. Duncan from Huntingdon to 310 East Sixth St., Tarentum (Allegheny County).

Jefferson County: *Removal*—Leo Z. Hayes from Conifer to Force (Elk County).

Lancaster County: *Removal*—Evans D. Russell from Ocean City, N. J., to 1724 Diamond St., Philadelphia.

Lehigh County: *New Member*—William W. Eshbach, 520 Union St., Allentown.

Luzerne County: *New Members*—Xavier K. Collmann, 93 East North St., Wilkes-Barre; Edward A. Sweeney, 63 South Washington St., Wilkes-Barre.

Lycoming County: *Removal*—Edward Everett from Millville (Columbia County) to Masten.

Mercer County: *New Member*—Frank E. McElree, Greenville. *Death*—William M. Lewis (Coll. of Phys. and Surgeons, Baltimore, '92) of Sharon expired on a train near New Castle, December 30, death being due to heart disease.

Montgomery County: *Removal*—Charles J. Swalm from Conshohocken to 1330 Rockland St., Philadelphia.

Philadelphia County: *Death*—Edward Humphreys (Hahnemann Med. Coll., '81) in Philadelphia, December 25, aged 61, from nephritis.

Potter County: *Removal*—J. A. Dennison from Harrison Valley to 325 West 26th St., Erie (Erie County). *Death*—Walter H. Squires (Jefferson Med. Coll., '99) in Roulette, December 6.

Susquehanna County: *New Member*—Arthur J. Taylor, Hopbottom.

Washington County: *New Members*—John W. Ildza, Canonsburg; W. D. Gemmill, Morganza.

Westmoreland County: *New Member*—John C. Mason, Rillton.

Wyoming County: *Removal*—F. A. Detrick from Clarks Summit (Lackawanna County) to Robertsdale (Huntingdon County).

PAYMENT OF PER CAPITA ASSESSMENT

The *per capita* assessment for the year 1918 has been received from component county societies since December 23, as acknowledged on page 246 of the January Journal, as given below. The figures in the first column indicate the county society number and those in the second column the state society number.

1918				
12/20	Monroe, previously remitted, now paid			$11.00
	(Reported in error in January Journal as 1919 dues)			
12/30	Lehigh	99	6865	2.75
12/30	Chester, previously remitted, now paid			35.75
12/30	Allegheny	1104, 1107–9 1111	6866–6870	13.75
1919				
1/ 4	York, previously remitted, now paid			35.75
1/ 7	Allegheny, prev'ly remitted, now paid			497.75
1/17	Washington, dues remitted	117	6871	
1/21	Cumberland	40	6872	2.75

The *per capita* assessment for the year 1919 has been received from component county societies as follows:

1918				
12/27	Wyoming	1–2	126–127	5.50
12/27	Juniata	1–2	128–129	5.50
1919				
1/ 2	Wyoming	3–7	130–134	13.75
1/ 2	Blair	1–17	135–151	46.75
1/ 2	Wayne	1–5	152–156	13.75
1/ 2	Montgomery	34–45	157–168	33.00
1/ 3	Juniata	3–4	169–170	5.50
1/ 3	Greene	1–18	171–188	49.50
1/ 7	Greene	19	189	2.75
1/ 8	Luzerne	7–12	190–195	16.50
1/ 9	Berks	1–3	196–198	8.25
1/ 9	Northumberland	1–18	199–216	49.50
1/ 9	Clarion	1–14	217–230	38.50
1/ 9	Westmoreland	1–17	231–247	46.75
1/10	Luzerne	13–16	248–251	11.00
1/13	Adams	1–6	252–257	16.50
1/15	Northampton	2–41	258–297	110.00
1/16	Susquehanna	1–13	298–310	35.75
1/17	Washington	8–22	311–325	41.25
1/17	Greene	20	326	2.75
1/18	Delaware	1–47	327–373	129.25
1/18	Huntingdon	1–34	374–407	93.50
1/20	Mercer	1–25	408–432	68.75
1/20	Lehigh	1–28	433–460	77.00
1/20	Union	1–14	461–474	38.50
1/20	Armstrong	1–19	475–493	52.25
1/21	Cumberland	1–9	494–502	24.75
1/22	Montgomery	46–80	503–537	96.25
1/23	Franklin	3–22	538–557	55.00
1/23	Center	1–6	558–563	16.50
1/23	Lycoming	1–38	564–601	104.50
1/24	Northumberland	19–21	602–604	8.25
1/24	Dauphin	1–49	605–653	134.75

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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BEDFORD—Wilmot Ayres, M.D., Bedford.
BERKS—Clara Shetter-Keiser, M.D., Reading.
BLAIR—Clair W. Burket, M.D., Altoona.
BRADFORD—C. L. Stevens, M.D., Athens.
BUCKS—Anthony F. Myers, M.D., Blooming Glen
BUTLER—L. Leo Doane, M.D., Butler.
CAMBRIA—Leo W. Hornick, M.D., Johnstown.
CARBON—James B. Tweedle, M.D., Weatherly.
CENTER—James L. Seibert, M.D., Bellefonte.
CHESTER—Henry Pleasants, Jr., M.D., West Chester.
CLARION—Sylvester J. Lackey, M.D., Clarion.
CLEARFIELD—John W. Gordon, M.D., Clearfield.
CLINTON—R. B. Watson, M.D., Lock Haven.
COLUMBIA—Luther B. Kline, M.D., Catawissa.
CRAWFORD—Cornelius C. Laffer, M.D., Meadville.
CUMBERLAND—Calvin R. Rickenbaugh, M.D., Carlisle.
DAUPHIN—Marion W. Emrich, M.D., Harrisburg.
DELAWARE—Adam J. Simpson, M.D., Chester.
ELK—Samuel G. Logan, M.D., Ridgway.
ERIE—T. M. M. Flynn, M.D., Erie.
FAYETTE—Charles J. Pflueger, M.D., Fairchance.
FRANKLIN—John J. Coffman, M.D., Scotland.
GREENE—Thomas B. Hill, M.D., Waynesburg.
HUNTINGDON—John M. Keichline, Jr., M.D., Petersburg.
INDIANA—William F. Weitzel, M.D., Indiana.
JEFFERSON—John H. Murray, M.D., Punxsutawney.
JUNIATA—Amos W. Shelley, M.D., Port Royal.
LACKAWANNA—Frederick J. Bishop, M.D., Scranton.
LANCASTER—Walter D. Blankenship, M.D., Lancaster.
LAWRENCE—William A. Womer, M.D., New Castle.
LEBANON—Samuel P. Heilman, M.D., Lebanon.
LEHIGH—Frederick R. Bausch, M.D., Allentown.
LUZERNE—Lawrence A. Sheridan, M.D., Wilkes-Barre.
LYCOMING—Wesley F. Kunkle, M.D., Williamsport.
McKEAN—Charles F. Elliott, M.D., Bradford.
MERCER—Frank M. Bleakney, M.D., Grove City.
MIFFLIN—Paul M. Allis, M.D., Lewistown.
MONROE—William E. Gregory, M.D., Stroudsburg.
MONTGOMERY—Benjamin F. Hubley, M.D., Norristown.
MONTOUR—Cameron Schultz, M.D., Danville.
NORTHAMPTON—Walter D. Chase, M.D., Bethlehem.
NORTHUMBERLAND—Horatio W. Gass, M.D., Sunbury.
PERRY—Lenus A. Carl, M.D., Newport.
PHILADELPHIA—Samuel McClary, 3d, M.D., Philadelphia
POTTER—Elwin H. Ashcraft, M.D., Coudersport.
SCHUYLKILL—George R. S. Corson, M.D., Pottsville.
SNYDER—Percy E. Whiffen, M.D., McClure.
SOMERSET—H. Clay McKinley, M.D., Meyersdale.
SULLIVAN—Theodore Wright, M.D., Dushore.
SUSQUEHANNA—Dever J. Peck, M.D., Susquehanna.
TIOGA—John R. Davies, M.D., Blossburg.
UNION—William E. Metzger, M.D., Alvira.
VENANGO—J. Irwin Zerbe, M.D., Franklin.
WARREN—M. V. Ball, M.D., Warren.
WASHINGTON—Frank Iams Patterson, M.D., Washington.
WAYNE—Sarah Allen Bang, M.D., South Canaan.
WESTMORELAND—Louis F. Wilson, M.D., Greensburg.
WYOMING—Herbert L. McKown, M.D., Tunkhannock.
YORK—Nathan C. Wallace, M.D., Dover.

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

FEBRUARY, 1919

LEGISLATION AT HARRISBURG

The Committee on Public Policy and Legislation met in Philadelphia on the morning of January 24, and in the afternoon there was a meeting of the Legislative Conference of the Medical Profession of Pennsylvania, which was organized in December, 1916. It will be remembered that this Conference represents the three state medical societies of Pennsylvania. Dr. Frederick L. Van Sickle, Olyphant, president of the Medical Society of the State of Pennsylvania, was elected chairman of the Conference, and Dr. Edward A. Krusen, Norristown, an ex-president of the Homeopathic Medical Society of the State of Pennsylvania, was reelected secretary. After a careful consideration of the several matters affecting the medical profession that are liable to be considered by the present legislature it was deemed necessary that some one medical man representing the physicians of the state should give his whole time for the next few months in keeping track of medical legislation at Harrisburg, and Chairman Van Sickle was persuaded to accept this important position. As Dr. Van Sickle gives up his practice temporarily, it is up to the medical profession to make arrangements to pay his necessary expenses. It was also decided by the Conference that the president of each of the three state societies select five members, the fifteen, with the two officers of the Conference, to constitute an executive committee of the Conference. Keep in touch with Dr. Van Sickle.

THE ARMY TRAINING SCHOOL AND THE RETURNING MEDICAL OFFICER

The excellent scientific training received by the men entering the Medical Corps has to a small extent compensated them for having given up their practice at the call of their country. This training, together with that received in the more active service, will have rendered the physician returning to active practice more valuable to the profession and to the community, and will thus be one of the "benefits" of the most awful war in history.

The need for medical men at the front in the early days of the war was so great that some were rushed to the front without an opportunity for much special training. If the medical department would continue for a time the most excellent postgraduate school at Camp Greenleaf or elsewhere, and allow returning medical officers to take a few weeks or months of special study before receiving their discharge, it would be a fitting compliment to them and would redound to the advantage of the community where such men might locate, and to the country as a whole.

A young physician who, without having received much special training, was sent to the front in France, where in active service he earned his promotion to captaincy, concludes a personal letter to the editor as follows:

> I would appreciate it if you could let me know if there will be any special effort made for us to take a postgraduate course on our return before going back to our civil practice. It seems like a necessity to most medicos to whom I have spoken, who were in the field. To those in hospitals, of course, that does not hold true. May I suggest that some way and place be fixed up for each of those so desiring, that they may get what they need, or want most, in as short a time as will be feasible? That is, a kind of schedule, etc., for the Pennsylvania men from over here, regardless of the school from which they graduated, be formed to facilitate that work. If it is taken up in our society and anything definite done, I would appreciate the information, for I feel that I would like to brush up before again returning to civil practice after I am mustered out.

THE HARRISBURG SESSION

The Committee on Scientific Work held a meeting in Philadelphia on January 24. The work already accomplished by the members of the committee, the plans adopted and the enthusiasm shown promise a most interesting program for next September. The members of the society are cordially invited to proffer papers for the Harrisburg session, and the committee desires the offer of papers by members from every county society in the state. The sooner the offer be made and the title of paper be given, the more likely it will secure a place on the program. Title of paper may be sent to the chairman of the committee, Dr. John F. Culp, 410 North Third Street, Harrisburg, or to any of the officers of sections whose names will be found on advertising page six of any issue of The Journal.

VERMONT MEDICINE SUSPENDS PUBLICATION

Vermont Medicine, published by the Vermont State Medical Society, after an honorable existence of three years suspends publication, giving editorial notice from which we excerpt the following paragraph:

> A combination of factors has, however, brought about a condition which we can neither surmount nor evade, and the Publication Committee has finally decided that with this, the December issue, the publication of the Journal shall come to an end.

Probably the greatly increased cost of publication has been the principal item in the "combination of factors" closing this creditable though short-lived publication. Why would it not be a good thing to make arrangements whereby the members of the Vermont State Medical Society would, by virtue of their membership in the state society, receive the *Boston Medical and Surgical Journal*, and that society have some representation in the conduct of the *Journal*, or a department in it? In this way the members would have the advantage of a good medical weekly and the *Journal* would have increased circulation.

THE BOARD OF EXAMINERS FOR REGISTRATION OF NURSES—SHALL IT BE CHANGED?

Attention is directed to a communication on another page of this issue from the president of the Pennsylvania State Board of Examiners for Registration of Nurses. The editor has the greatest respect for the conscientious and faithful women who adorn the nurses' profession, and would hesitate to say or do anything that might seem to detract in the slightest degree from the gratitude and honor due these women from both the medical profession and the community. The communication from Dr. Higbee calls attention to the tendency on the part of some leading nurses to increase the educational requirements of nurses, and shows the disadvantages which would result to the community from any such course. There is another side to the question that might well be considered by registered nurses. Already there is a growing feeling among a considerable part of the laity that capable "practical nurses" who have had a number of years of experience should be granted some legal standing. While many of these women render valuable service to the community, the granting to them of a special license or registration would not be helpful either to the community or to registered nurses as a class.

The woman who wishes to be a physician should take a course in a medical college and then let circumstances and her desires direct her place in the profession.

There should be one standard for all persons wishing to enter the practice of medicine, and the tastes, special training and aptitude of those who have been licensed will supply general practitioners, surgeons, specialists and instructors to meet the various needs of the community. So, too, there should be one reasonable standard for the entrance to training schools for nurses and graduation from the same. The individual capabilities, special training, preferences and ambitions of the nurses thus graduated will supply the demand for all kinds of nurses from the one who enjoys her honorable work in general practice to the efficient directress of nurses or the successful superintendent of a hospital.

STATE NEWS ITEMS

DIED

Dr. A. Eugene Heimbach (Hahnemann Med. Coll., Philadelphia, '90) in Philadelphia, Dec. 6, 1918, aged 55, from carcinoma of the stomach.

Dr. Reese Davis, Lieut., M. C., U. S. Army (Jefferson Med. Coll., '16), of Forest City, in France, September 27, aged 25, from wounds received in action.

Dr. Otto Andrew Koch (Univ. of Pennsylvania, '96) in Philadelphia, October 30, aged 47, from tuberculosis.

Dr. John Ivison (Univ. of Pennsylvania, '74) in Coatesville, October 15, aged 71.

Dr. George Anderson Cubbison (Western Pennsylvania Med. Coll., Pittsburgh, '97) in Erie, December 21, aged 55, from pneumonia following influenza.

Dr. Nathaniel H. Saxman (Univ. of Pennsylvania, '90) in Philadelphia, January 9, aged 53.

William B. Van Lennep (Hahnemann Med. Coll. and Hosp., Philadelphia, '80) in Philadelphia, January 9, aged 65, after an illness of two months.

Dr. William D. Donne (Western Pennsylvania Med. Coll., Pittsburgh, '88) in Scranton, January 8, aged 55.

Dr. Samuel H. Pettigrew (Jefferson Med. Coll., '72) in Springdale, January 1.

ITEMS

Lieut. James A. Reap, Avoca, gassed while in the Vesle sector, is home again.

Capt. E. B. Marshall, Annville, who spent over a year in France, has returned home.

Dr. Edward F. White, Reading, has been appointed resident physician at the Hamburg Sanatorium.

The Germantown Hospital has been bequeathed $1,000 by the will of Sarah R. Watson, who died in the institution.

Dr. Frederick S. Baldi, Philadelphia, has returned from service as medical officer attached to the Marine Aviation Corps.

Edward Martin, Lieut.-Col., M. C., U. S. Army, Philadelphia, has accepted the position of health commissioner of Pennsylvania.

Miss Cora S. Moyer, Fleetwood, a nurse in the American Army overseas, has been cited for bravery under fire by General Pershing.

The Pennsylvania Hospital, Philadelphia, treated 5,177 persons during 1918, forty states and thirty-five foreign countries being represented.

Major James H. McKee, Philadelphia, was flight surgeon of the recent transcontinental airplane flight from San Diego, Calif., to Washington.

Col. Ross Hall Skillern, Philadelphia, for the past six months commanding officer of Base Hosp. 89, in the south of France, has returned home.

Lieut. Samuel Miller, who has been a prisoner at Lanensalva, Germany, since March, 1918, is now again in active service with the American Forces.

General Hospital No. 17, Markleton, has been designated by Surgeon-General Ireland for the special care of soldiers having pulmonary tuberculosis.

Col. C. Lincoln Furbush, M. C., U. S. Army, Philadelphia, accompanies Major-Gen. William C. Gorgas to Guatemala to study the yellow fever situation.

Thirty-Seven Per Cent. of the Farmers of Pennsylvania own automobiles, the total number of pneumatic-tired cars owned by farmers, January 23, being 81,505.

Dr. W. H. Hunsberger, Pennsburg, received a fracture of the leg and contusions when his automobile was wrecked by a train on a grade crossing, January 13.

George E. de Schweinitz, Lieut.-Col., M. C., U. S. A., Philadelphia, has been appointed general consultant in ophthalmic surgery to the Surgeon-General of the Army.

Lieut. David R. Morgan, Philadelphia, who earned a Croix de Guerre and four citations for his work as a medical officer with a French detachment, has returned home.

Bristol Gets New Hospital.—The new hospital built by the Emergency Fleet Corporation, will be converted into a general hospital for the people of Bristol and surrounding districts.

Addition to Hamburg Sanatorium.—A contract for construction work, amounting to $343,800, was awarded January 13, for the erection of four one-story buildings and two two-story buildings at Hamburg.

Opposed to Health Insurance.—The Lackawanna County Medical Society at a special meeting, January 21, adopted resolutions voicing unanimous opposition to the proposed bill providing for health insurance.

Dr. Laura Emma Hunt, Philadelphia, has returned from nine months' service in France. She served five months as an operating physician before going into the interior of France on Red Cross hospital work.

Nursing by the Hour.—The Visiting Nurse Society, Philadelphia, has decided to supply families not needing continual service a trained nurse's attention for $1 an hour during the day and $1.50 at night.

Dr. Thomas L. Doyle, Tremont, has been decorated with the military cross by King George for gallantry and devotion to duty. Dr. Doyle was formerly chief resident physician at the Hahnemann Hospital, Philadelphia.

Lancaster Hospitals to be Enlarged.—It is reported that big additions will be made as soon as possible to both the General and St. Joseph's Hospitals, as both have been declared too small by their directing boards.

Mrs. Henry D. Jump, Philadelphia, has been reappointed to head the Third Federal Reserve District in the Victory Loan, which opens in April, receiving her appointment directly from the Treasury Department in Washington.

Dr. Charles J. Hatfield, director of Phipps Institute, was on January 20 elected chairman of the Southeastern Pennsylvania Chapter of the American Red Cross and will direct the organization through its peace-time progress.

Lieut.-Commander Robert Grier LeConte, Philadelphia, has returned from France, where he was naval consultant of General Pershing's forces, and surgical leader of Navy Base Hospital No. 5, provided by the M. E. Hospital.

Influenza in the Wyoming Valley.—It is estimated that there have been some 60,000 cases of influenza in Luzerne County, with 3,486 deaths, rendering 1,750 children orphans. In addition to this 740 homes lost either a father or a mother.

Dr. Frank C. Abbott of the Jefferson Hospital Unit, who served in France more than three years before the United States entered the war, has been decorated by the president of the French Republic with the "Medaille de la Reconnaissance Francaise."

Capt. De La Ray Signor, M. C., U. S. Army, Philadelphia, who was with the 309th Field Artillery, having been gassed and contracted influenza which compelled him to give up his duties at the front, has been placed in charge of Camp Hospital No. 72 at Chateau-du-Soir.

Dr. B. Franklin Royer, Acting State Health Commissioner since the death of Dr. Samuel G. Dixon in February, 1918, on January 22 handed to Colonel Martin, the new commissioner, his resignation as head of the Bureau of Medical Inspection, a place he has held for the past ten years.

The Medical Club of Philadelphia on January 17 elected the following officers: President, Dr. G. Oram Ring; vice presidents, Drs. Barton Cooke Hirst and Henry Beates; secretary, Dr. William S. Wray; treasurer, Dr. Lewis H. Adler, Jr., and governor, Dr. Edward E. Montgomery.

Major John D. McLean, Philadelphia, the new assistant commissioner of health, on January 24, assumed charge of the department. Colonel Martin, the new commissioner, authorized him to act in his absence. Major McLean has been in the Surgeon-General's Office the past year.

Lieut.-Col. William H. Walsh, M. C., U. S. Army, formerly chief resident physician at the Philadelphia General Hospital and executive secretary of the American Hospital Association, has been made general medical director of the Children's Hospital to be established near Mons, Belgium.

Pennsylvania Medical Officers Reported Wounded.—Capt. Clifford H. Arnold, M. C., U. S. Army, Ardmore, severely; Capt. Bennett A. Braude of Johnstown, Lieuts. Isaac I. Parsons of Media, Cornelius T. McCarthy of Philadelphia, and Ralph E. Buckley of Hazleton, all of M. C., U. S. Army, degree undetermined.

Major Charles H. Frazier, Philadelphia, who was commissioned a major at the beginning of the war, in the Medical Corps in the Army, and who was attached to the Cape May Hospital as chief of the surgical division, has been appointed general consultant in neurologic surgery to the Surgeon-General of the Army.

Capt. James B. Clinton, M. C., U. S. Army, Philadelphia, assigned to duty with the British Expeditionary Forces in September, 1917, and with the 133d Field Ambulance, and was given the Military Cross on account of gallantry in action at Mount Kemmel in May last, was awarded a bar to the Military Cross for gallantry in action, August 23.

Death Rate for 1918.—The death rate for the year 1918 was the highest in the history of the State Health Department in Pennsylvania, according to the report of the state registrar. Approximately 185,000 deaths occurred, the rate being 21.6, as compared with 14.8 for 1917. This increase is due almost entirely to influenza, which caused more than 50,000 deaths.

Women Interns for Hospital.—Beginning June 1 and for the first time in the history of the University of Pennsylvania, women physicians will be accepted as interns in the University Hospital. The only restrictions being that there shall be but two women physician interns at one time and that both shall be medical graduates of the University of Pennsylvania.

Bequests.—By the will of Mrs. Florence Hatfield $250,000 is bequeathed for the establishment of a home for convalescents at her residence in Payne Township, Chester County, including a large park. By the will of Mary H. Wood $10,000 is bequeathed to each of the following institutions: Philadelphia Home for Incurables, Woman's Medical College of Pennsylvania, Women's Hospital, Charity Hospital of Philadelphia and Norristown, and Industrial Home for Blind Women.

Dr. Thomas W. Kay, a charter member of the Lackawanna County Medical Society, was the host on January 22 to eighty of his friends at a banquet at Hotel Jermyn. The following local doctors who joined the colors and who have returned home to resume their profession were among the guests: Capts. John D. Butzner, D. J. Jenkins, J. N. Douglas and Carl G. Brown, and Lieuts. R. H. Armstrong, A. P. Gardner, J. J. Price, F. W. Stevens and L. G. Sweeney. Dr. Kay will soon visit France and the other war-devastated countries to study reconstruction work.

The American Military Hospital, No. 1, formerly known as the American Ambulance Hospital, situated at Neuilly, near Paris, is preparing to close its doors and return the building to the French government to be used for its original purpose, a school. Mrs. Robert Bacon, chairman of the American Committee, in a letter to the Philadelphia Press, writes: "In bringing to a close the labors of so many months the committee feels a pardonable pride in the effectiveness and value of its achievements. It aimed to provide for the Allied wounded, nothing less than the best medical, surgical and nursing care that modern science could devise or practical experience suggest, and it finds its justification in the notably high record of lives saved and of men restored to health or fitted for careers of usefulness. The ardent and devoted sacrifice of physicians, surgeons, nurses and attendants has been made available by the patriotism and generosity of thousands in all parts of the country who have contributed through the American committee more than two million dollars for the maintenance of this work. Some idea of the magnitude of the undertaking is conveyed by the fact that after Chateau-Thierry the capacity of the hospital was extended from 575 beds to 2,000, and for an extended period from 600 to 800 new cases were received every day."

The Pennsylvania Antinarcotic Law.—On January 19 Dr. B. Franklin Royer, acting commissioner of health, announced the completion of the organization of the Bureau of Drug Control, which will be under the direction of Dr. Thomas S. Blair, Harrisburg. The law was approved by the governor, July 11, 1917, but Commissioner Dixon delayed organizing a bureau on account of his physical condition. It was necessary for the health department to formulate rules and regulations for the guidance of physicians, pharmacists and drug addicts. It was also necessary to plan for the proper supervisory force. Later Dr. Dixon became seriously ill, succumbing last February. His successor, Acting Commissioner of Health Dr. B. Franklin Royer, had plans for organizing the bureau virtually complete when the epidemic of influenza struck the state, making it necessary to concentrate on that work. According to the rulings of the state health department, every practicing physician, dentist and veterinarian shall "make legible carbon or other duplicate copies of the 'order form for opium' at the time they make the original entries thereon, in addition to the files prescribed by the internal revenue department, the additional copies to be made on serially numbered blanks provided by the Pennsylvania Department of Health." These serially numbered blanks must, on the first day of every month, be returned to the state commissioner of health.

GENERAL NEWS ITEMS

Dr. Horace Fletcher, widely known as an expert on dietetics, died in Copenhagen, January 13, from bronchitis, after a long illness.

Dr. John H. Lowman, Cleveland, who headed the first American Red Cross tuberculosis mission to Italy, died in New York, January 23.

Two Soldiers Out of Every One Thousand who fought with the American Army overseas lost an arm or a leg, according to Lieutenant-Colonel Strong.

Dr. William H. Welch, Baltimore, was recently elected a member of the National Board of Medical Examiners, succeeding Dr. Henry Sewall, Denver, resigned.

Wounded American Soldiers remaining in hospitals overseas on January 23 were approximately 104,000, according to the statement of Col. W. H. Smith of the Surgeon-General's Office.

Automobile Fatalities.—The deaths from automobile accidents in New York City were 528 during 1918, as against 417 for 1917. There were 441 fatal accidents from automobiles outside the city during 1918.

Dr. Simon Flexner of the Rockefeller Institute for Medical Research, New York, has been appointed an officer of the Legion of Honor by the French government. Dr. Flexner was also elected president of the American Association for the Advancement of Science at its annual meeting in Baltimore, December 27.

The Harvard Unit.—A newspaper clipping claims that one tenth of the British wounded in France during the war were handled by the Harvard University Surgical Unit under the charge of Lieut.-Col. Hugh Cabot. Only 1 per cent. of the wounded died, and the whole unit's personnel escaped being killed during air raids.

Health Commissioner R. S. Copeland, New York City, has ordered that the passengers entering the port of New York from Italy shall be vaccinated against smallpox if the time since the departure of the ship from an infected port has been less than sixteen days. No passenger will be permitted to land until that time has expired.

Council on Pharmacy and Chemistry.—During January the following articles were accepted for inclusion in New and Nonofficial Remedies: Neoarsenobenzol, Dermatological Research Laboratories; Litiolo, Guiseppe W. Guidi; Digitan, Digitan tablets, 1½ grains, Quinine Ethyl Carbonate-Merck, Merck and Company; Chloramine-T, Monsanto, Monsanto Chemical Works.

Capt. Samuel H. Hodgson, M. C., U. S. Army, of Fairhope, Ala., and a graduate of the University of Alabama School of Medicine in 1887, has been dismissed from the Army and with a reprimand because he "promiscuously eulogized the German people, particularly the German spies, and seemed to side with the Germans against the United States, and said that the kaiser was a gentleman."

Venereal Disease a Public Health Problem for Civilian Communities.—It is claimed that five out of every six cases of venereal diseases in the Army were contracted before enlistment. V. D. Circular No. 11, issued by the Treasury Department, says: "The great prevalence of venereal disease is due largely to conditions in civil life. Army medical men now know that venereal diseases are preventable; and by a system of education, healthy recreation, repression of prostitution, isolation and treatment, they have cut down the venereal rate in the camps. All these methods are applicable to civil communities. Civil communities can no longer evade this most important health problem."

Health Insurance Measures.— The first bill for 1919 to be introduced into the New York State Senate was one providing for the reorganization of the New York State Health Department which was submitted by Senator Ross Graves of Buffalo. This bill was introduced at the request of the Associated Manufacturers and Merchants of the state and is regarded in some quarters as a check to the propaganda for compulsory health insurance, though its sponsors deny this and state that the bill stands squarely on its own merits. The bill provides for an organized system of sickness prevention and carries an appropriation of $2,250,000. It is not expected that the bill will be passed at the present time, but it is regarded as a start in the right direction. January 8, a health insurance bill was introduced into the lower house by Assemblyman Joseph Steinberg of the Fifteenth Manhattan District. This bill provides for a system of mutual health insurance funds under the supervision of the Industrial Commission. It aims to supplement the inadequacies of the present Workmen's Compensation Law and provides for maternity benefits. The costs of the insurance are to be borne one half by the employer and one half by the employee. In cases in which the earnings of the employee are less than $9 a week and more than $5 they are to be borne three quarters by the employer and one quarter by the employee. The bill not only provides for health insurance, but also for prevention of disease by lessons in hygiene. An appropriation for this purpose is to be made with the consent of the Industrial Commission. Governor Smith is said to be ardently in favor of the bill and public sentiment is also supporting the measure.

The Atlantic City Session.—*Governmental Status Given the Victory Meeting Through Approval of the Secretary of War.* As already announced, the annual session to be held next June will be a "victory" meeting. One of the special features will be the bringing together of medical representatives of the allied governments associated in the world war to plan for cooperative interallied study and research, to discuss methods for taking advantage of the advances in medical science that have developed because of the war, and to cement the bonds of an enduring friendship among medical men. The following correspondence relates to the subject:

Washington, D. C., Dec. 23, 1918.

My Dear Mr. Secretary:

The annual meeting of the American Medical Association will be held at Atlantic City, N. J., from June 9 to 13, 1919. It has a membership of more than 80,000 physicians and surgeons. Approximately 40,000 of its members have served in the Medical Department of the Army during the world war. The annual meeting at Atlantic City will be called a victory meeting of the American Medical Association.

It is desired by the leading members of the medical profession of this country to make this victory meeting a notable one, and that representative medical men of all of the allied governments associated in the world war may be invited to attend the meeting for the purpose of conference on and compilation of the knowledge of medical science growing out of the war.

That these invitations to the foreign representatives may have something of an official character, it is requested that the invitations may be sent by the officers of the American Medical Association under the patronage of the Medical Department of the Army of the United States.

No expense to the United States government is implied in this suggestion. Attached hereto is a memorandum for your signature if the proposition meets your approval.

Very sincerely yours,
(Signed) M. W. Ireland,
Surgeon-General, U. S. Army.

To the Honorable Newton D. Baker,
Secretary of War.

Dec. 23, 1918.

The American Medical Association is authorized, under the patronage of the Medical Department of the Army of the United States, to invite medical representatives of the allied governments associated in the world war to the annual victory meeting to be held at Atlantic City, New Jersey, from June 9 to 13, 1919.

(Signed) Newton D. Baker.

The approval of the Secretary of War gives the session of the Association a governmental status. The Board of Trustees has appointed and empowered the following committee to act for the Association in inviting these delegates: Arthur Dean Bevan, President; Alexander Lambert, President-Elect; Alexander R. Craig, Secretary; Merritte W. Ireland, Surgeon-General of the U. S. Army; William C. Braisted, Surgeon-General of the U. S. Navy; William H. Welch and William J. Mayo, Ex-Presidents, and the following members of the Board of Trustees: Philip Marvel, Wendell C. Phillips, D. Chester Brown and Frank Billings, the last mentioned being chairman of the committee.

Alexander R. Craig, Secretary,
American Medical Association.

BULLETIN EXCERPTS

WEEKLY BULLETIN, ALLEGHENY

The War Doctor's Future; an English Viewpoint

We have had official authority for the statement that there are upward of 12,000 doctors in the Army. The majority of these men have made heavy sacrifices for their country; a large number of them will return to civil life to find their means of livelihood gone. Others who had no practices when they joined will be thrown on the world.

This is a serious state of matters for the doctors themselves; it is not less serious for the public, because among these 12,000 doctors are some of the most brilliant men in the profession. Unless steps are taken to offer work at home—and there is abundance of work waiting to be done—they will inevitably drift to the colonies or scramble for places in which their special attainments cannot be realized.

The position is very bad, because no steps of any kind seem to have been made to reclaim these war doctors. From time to time, it is true, feeble efforts have been inaugurated, and funds, savoring strongly of charity set up. But there is no help in tinkering of this sort. What is needed is a demand by the public that a great body of scientific knowledge calculated to be of the utmost value at this juncture shall not be frittered away. Health is one of the first concerns of reconstruction. These men have made our Army the healthiest in the world—in history. Surely it is no unreasonable demand that they should be given a chance to perform the same good office for the country at large.

The first step must come from the government, and if Sir Auckland Geddes is anxious to prove his fitness for the post of president of the local government board, here is his opportunity. Let him take the matter in hand in a broad public spirit. As it is clearly in the public interest that good doctors should be settled all over the country, there remains a large amount of army medical work and work in connection with disabled soldiers to be done, we suggest that a scheme designed to serve both purposes is practicable. Let the president of the local government board, in consultation with the Army authorities and the Ministry of Pensions, draw up a list of places in which Army doctors will be required after peace is signed, and let this list be circulated as soon as possible among the Royal Army Medical Corps. Unless we are much mistaken, it will be found that almost all the towns and very many of the villages of the country, will figure in that list, for all towns and most villages have their military hospitals, just as all towns and villages have their sick and disabled soldiers.

The war doctor will thus be enabled to decide where he wishes to settle and to work. He should be engaged to give part-time service, and so be free to devote the remainder of his time to building up a practice. Thus the danger period will be tided over for him, and he will be saved from anxiety and want. The soldiers and the public will benefit. The nation will suffer no loss, because in any case this work of attending the disabled must be carried on. We are aware that professional committees exist anxious to undertake the work of demobilization. But a scheme of the kind outlined could not be left to them. It must be arranged by the government itself.—A Medical Correspondent in *London Times.*

CALL AND ROSTER, FRANKLIN

President of a County Medical Society

The president of a county medical society is an officer of much importance to the medical society of the county. He can add much to the success of the society in his ability and activity in keeping the members interested and active in the work of the society for progress. The better the society is attended and the work carried on, the better for the welfare of the people of the community. This will call for constant study and interest in all the activities which the society is expected to undertake and work out. It is a work that presents an opportunity to do a great good for the entire profession of the county; not only for the membership of the society but also for those not of the society. His influence in arranging the programs that they shall be interesting and educational, especially along medical lines, is of value, as well as the arranging of time and place for meetings that the largest percentage of attendance will be secured. However, there is a work also for the members; each one should personally feel or recognize that he has in addition to his privilege of membership a duty to fill; to be ready to help by his cooperation and interest in making good for the society in its activities.

COMMUNICATION

THE BOARD OF EXAMINERS FOR REGISTRATION OF NURSES—SHALL IT BE CHANGED?

To the Editor:—At a recent meeting of the Graduate Nurses' Association of the State of Pennsylvania, there was adopted a resolution of the legislative committee, whereby a bill will be introduced at this session of the legislature abolishing the registration board as it now stands of three doctors and two nurses, and substituting a board consisting of all nurses.

Some of the policies of the nursing associations, if put into practice at the present time, would greatly reduce the number of nurses at the disposal of the public, and further, would reduce the number of applicants to the training schools throughout the state.

There is an element in the nursing profession which has great influence in the framing of its policies, and which is making a persistent effort to increase the educational requirements for entrance to the training school; for example, at a conference of representative nurses held on Dec. 19, 1918, this subject was discussed. Miss Ella Phillips Crandall wished the conference to go on record as recommending "that a diploma in nursing be granted at the end of two years and three months, or two years, the educational requirements to be a high school education and two years of college." This discussion will give some idea of the attitude of the nurses toward this subject. In normal times, it is a fact that there is a great shortage of applicants to the training schools. It is therefore most apparent that such standards would further decrease the number of applicants, as experience of the past proves that only a small proportion of those entering the training schools have been able to obtain anywhere near the educational attainments desired by the nursing associations.

There is also a constant desire on the part of the nurses to increase the theoretical studies of the pupil nurse to a degree that far overbalances her practical education.

There are many policies upheld by some leaders in the nursing profession which might be very commendable from a theoretical standpoint, but from the standpoint of the public's requirements and the family doctor they are not practical at this time, and would bring about such a shortage of nurses that people, especially of the middle class who desire to pay a reasonable sum for nursing service, would be denied the privilege of a trained nurse on many occasions, unless they would accept it as charity.

At the last meeting of the Medical Society of the State of Pennsylvania, the following resolution was adopted and is self-explanatory:

> Whereas, An effort is being organized to change the law governing the registration of nurses and the accrediting of training schools in the State of Pennsylvania, whereby the practitioners of medicine will be omitted from the Board; and
>
> Whereas, All pupil nurses are being trained to execute the orders of the doctor, and training schools could not exist without this supervision and instruction; therefore, be it
>
> *Resolved,* That tbe Medical Society of the State of Pennsylvania, at its meeting, Sept. 25, 1918, would strongly urge that tbe government of this Commonwealth make no change in the law which would alter the proportion of doctors and nurses on the State Board for Registration of Nurses.

Considering the above conditions it seems to be the duty of the medical profession to use its influence with the present legislature to continue the registration board for nurses as it has been since 1909, consisting of three doctors and two nurses.

Yours respectfully,
William S. Higbee.

Philadelphia, Feb. 1, 1919.

BOOKS RECEIVED

Principles and Practice of Obstetrics. By Joseph B. DeLee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Third edition, thoroughly revised. Large octavo of 1,089 pages, with 949 illustrations, 187 of them in colors. Philadelphia and London: W. B. Saunders Company. Cloth, $8.50 net.

Neoplastic Diseases. A Textbook on Tumors. By James Ewing, M.D., Sc.D., Professor of Pathology at Cornell University Medical College, New York City. Octavo of 1,027 pages, with 479 illustrations. Philadelphia and London: W. B. Saunders Company. 1919, Cloth, $10.00 net.

A Manual of Diseases of the Nose, Throat and Ear. By E. B. Gleason, M.D., Professor of Otology in the Medico-Chirurgical College Graduate School, University of Pennsylvania. Fourth edition, thoroughly revised. 12mo of 616 pages, 212 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, $3.00 net.

A Manual of Gynecology. By John Cooke Hirst, M.D., Associate in Gynecology, University of Pennsylvania; Obstetrician and Gynecologist to the Philadelphia General Hospital. 12mo of 466 pages, with 175 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, $2.50 net.

A Textbook of Physiology. For Medical Students and Physicians. By William H. Howell, Ph.D., M.D., Professor of Physiology, Johns Hopkins University, Baltimore. Seventh edition, thoroughly revised. Octavo of 1,059 pages, 307 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, $5.00 net.

Pathological Technic. A Practical Manual for Workers in Pathologic Histology and Bacteriology. Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By F. B. Mallory, M.D., Associate Professor of Pathology, Harvard Medical School; and J. B. Wright, M.D., Pathologist to the Massachusetts General Hospital. Seventh edition, revised and enlarged. Octavo of 555 pages, with 181 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, $3.75.

BOOK REVIEW

PERSONAL HYGIENE AND HOME NURSING,

A Practical Textbook for Girls and Women for Home and School Use. By Louisa C. Lippitt, R. N., Assistant Professor of Correction Exercises, University of Wisconsin. (In New-World Science Series, edited by Prof. John W. Ritchie.) Pages vii, 256; illustrated. Yonkers-on-Hudson, N. Y.: World Book Company. Cloth, $1.28.

The purpose of Miss Lippitt's textbook is to explain the means by which girls and women may attain health and happiness in the present and lay the foundations for sane and vigorous lives in after years. In clear terms it lays down practical instructions for the conduct of their daily lives. Not only are rules set out, but the reasons which underlie them are made clear. Directions are given for preventing the spread of infection from cases of communicable disease; and instructions are furnished for the care of oneself and one's family in cases of accident or sickness. The author has given adequate treatment to the ideas that she considers most helpful to lay readers, but she *has* taken pains not to go too deeply into the scientific aspects of any subject. She has desired to keep the book rather brief and for this reason has introduced only those topics on which women and girls seem particularly to need instruction.

THE MEDICAL CLINICS OF NORTH AMERICA.

September, 1918. U. S. Army Number. Philadelphia and London: W. B. Saunders Company.

Although the war is over, the articles contained in this volume will prove interesting and instructive. The opening paper is contributed by Major-Gen. William C. Gorgas and deals with "Clinical Research in United States Army Base Hospital." Lieut.-Col. Channing Frothingham describes the "Function of a Base Hospital in a National Army Cantonment." Major Walter W. Hamburger and Major Herbert Fox give the results of "A Study of the Epidemics of Pneumococcus and Streptococcus Infections, and Measles, at Camp Zachary Taylor, Autumn, 1917, to Summer, 1918." Contract Surgeon W. G. McCallum records his views on "The Pathology of the Streptococcal Pneumonias of the Army Camps." Major E. P. Joslin and Major Homer Gage discuss "Postoperative Pneumonia." Major Lawrence Litchfield records "Notes on the Diagnosis of Acute Infections in the Thorax." Lieut.-Col. Joseph L. Miller and Capt. Frank B. Lusk discuss "Empyema at Camp Dodge." Major Russell L. Cecil, "Pneumonia and Empyema at Camp Upton, N. Y." Major Charles Spencer Williamson furnishes a paper on "The Prevention of the Communicable Respiratory Diseases." Major Edward H. Goodman reports the "Results of the Examination of 23,943 Drafted Men by the Cardiovascular Board at Camp Jackson, Columbia, S. C." Major Donald J. Frick reviews "Cardiovascular Diseases at Camp Beauregard, La., for the Year Ending September 15, 1918." Major Thomas D. Coleman and Capt. Emmet F. Horine discuss "The Clinical Significance of Cardiac Murmurs." Lieut. Morris H. Kahn discusses "Paroxysmal Tachycardia, with Report of Clinical and Polygraphic Studies." Major Francis W. Peabody, First Lieut. Joseph T. Wearn and Edna H. Tompkins deal with "The Basal Metabolism in Cases of the Irritable Heart of Soldiers." Major Harlow Brooks contributes a paper on "Neurocirculatory Asthenia, and Epidemic Parotitis as a Military Disease." Major W. W. Herrick describes "Meningococcic Pericarditis, with Report of Twelve Cases." Major Joseph C. Friedman and Capt. Warren T. Vaughan discuss "Subacute and Chronic Mediastinal Complications of Measles" and they make "Comments on the Methods Employed in Preventing Measles Complications." Major Charles L. Mix makes a report of six cases of anthrax. Major J. M. W. Scott discusses "Drug Addiction." First Lieut. Macy L. Lerner reports cases of Marie's disease, infantalism, hyperkeratosis and subclavian aneurysm.

E.

BUREAU OF MEDICAL EDUCATION AND LICENSURE

MEMBERS BY APPOINTMENT

John M. Baldy, Pres., 2219 DeLancey St., Philadelphia.
William M. Hillegas, Philadelphia.
Irvin D. Metzger, Pittsburgh.
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Adolph Koenig, Pittsburgh.

Members Ex-Officio.

Nathan C. Schaeffer, Sec., Dept. of Pub. Inst., Harrisburg.
B. Franklin Royer, Harrisburg.

LIST OF QUESTIONS SUBMITTED BY THE BUREAU OF MEDICAL EDUCATION AND LICENSURE AT THE JANUARY, 1919, EXAMINATIONS

MEDICAL AND SURGICAL

PHYSIOLOGY, PATHOLOGY AND BACTERIOLOGY

1. In studying spinal fluid, state the things that may be looked for and give their significance. Describe the technic by which the fluid is secured.

2. Outline the laboratory methods used in the diagnosis of tuberculosis, giving the relative value of each.

3. Name five diseases in which bacterial findings confirm the diagnosis. Name the bacteria and give the distinctive feature by which each is recognized.

4. Given a case of progressive debility without fever in middle life, indicate what laboratory procedures might aid in establishing the diagnosis.

5. Describe briefly the pathology (a) of plastic iritis; (b) of acute suppurative otitis media.

6. Describe the physiology (a) of "blushing"; (b) of "swallowing."

7. Given a case of gastro-intestinal derangement with occasional hematemesis, outline the investigations which would aid in making the diagnosis.

8. Give (a) the urinary findings, (b) the gross and (c) the minute pathology in a marked chronic interstitial nephritis.

9. How would you collect material for each of the following investigations: Syphilis, tuberculosis, diphtheria, malaria, typhoid fever.

10. Outline the kinds of immunization, defining each. Against what diseases can positive immunization be secured?

(The term "laboratory" in these questions is used to mean any technical investigation employed in the diagnosis or treatment of a case.)

DIAGNOSIS, SYMPTOMATOLOGY, MEDICAL JURISPRUDENCE AND TOXICOLOGY

1. Describe the course of a case of epidemic influenza. Name three sequelae or complications of this disease.
2. Discuss the significance and periodicity of the presence of albumin in the various forms of nephritis. What importance would you place on the presence or absence of tube-casts with albumin?
3. What are the findings in the gastric juice in a case of cancer of the stomach? Differentiate chronic gastritis from cancer of the stomach.
4. Give the symptoms and physical signs of incipient tuberculosis of the lungs. What other means of investigation would you use in a suspected case?
5. What is the cause of angina pectoris? Differentiate pseudo-angina from the true angina pectoris.
6. What are the clinical manifestations of gall-stones? Differentiate hepatic colic and renal colic.
7. What are the symptoms of a poisonous dose of corrosive sublimate?
8. What is the significance of (a) exaggerated patellar reflex; (b) diminished patellar reflex? How would you elicit Koenig's sign and what is its significance? How would you elicit Babinski's sign and what is its significance?
9. In a case exhibiting an inflammatory arthritis; name three possible causes and differentiate them.
10. Discuss the usual causes of lymphatic enlargement.

GYNECOLOGY, OBSTETRICS, PHYSICAL CHEMISTRY

1. Indicate the difference between the male and the female pelvis. Give (a) the measurements of the inlet and outlet of a normal pelvis; (b) the normal measurements of an infant's head.
2. Given a woman of eight months pregnancy; detail the external examinations and findings for the position of the child.
3. A woman presents herself to you with a history of a possible pregnancy; name three conditions that might be mistaken for pregnancy. Give a detailed differentiation of each.
4. Detail the proper care of a pregnant woman during her term of gestation; (a) her preparation for delivery; (b) her after care.
5. (a) Describe the successive steps of the mechanism of an occipito posterior position. (b) What methods of assistance may be used and how carried out.
6. A woman during her menstrual life consults you for periodical or irregular bleeding; name three possible conditions. State briefly the differentiating points on which you could make a diagnosis.
7. (a) Name the principal toxemias of pregnancy. (b) How are they manifested? (c) Detail the management during gestation.
8. During delivery, given a prolapsed umbilical cord, what potential disasters are indicated? (a) How would you treat the condition? (b) After the child is delivered detail your treatment of the cord.
9. Explain the relationship between the pigments of the blood, bile and feces.
10. Discuss fully the digestion of starch by saliva.

ANATOMY AND SURGERY

1. Describe the principles involved in the Carrel-Dakin treatment of wounds. Give a detailed description of the application of the method. Point out the essential differences between this method and the dichloramin-T method.
2. State in detail the conditions necessary to be present which would warrant the amputation of an extremity. State the structures severed in an amputation through the middle of the thigh.
3. How is Pott's fracture produced? What displacements occur and what is their anatomical explanation? What difficulties may occur in reduction of the fracture and how are they overcome?
4. What displacements occur in dislocations of the clavicle (a) sternal; (b) acromial? In each of these injuries what structures are involved? What general principles of treatment are involved in order most surely to secure perfect results?
5. Enumerate all the lesions to be considered resulting from a very severe blow on the nose, indicating the two most important. Outline your general management of such a case.
6. State the causes of bunion. Give in detail the causes for the accompanying deformity. Describe the surgical remedy.
7. Describe the lesion known as carbuncle. Outline the methods of treatment, giving reasons for the employment of each.
8. Explain the way in which acute obstruction of the bowels is caused by peritoneal inflammations. Mention two diseases in which this is a prominent symptom. Indicate the methods of relief of the obstruction.
9. Name five parts of the body at which cancer most frequently appears. State what are the first danger signals of the existence of cancer in these parts and the best method of treatment.
10. Describe the treatment of burns in their different degrees. In each instance state (a) why the method is selected; (b) what it is expected to accomplish; (c) how the result is brought about.

PRACTICE, MATERIA MEDICA AND THERAPEUTICS, HYGIENE AND PREVENTIVE MEDICINE

1. Name the principal articles of diet that are contraindicated in diabetes mellitus. Make a list of articles of food that might be served at breakfast, luncheon and dinner in that disease.
2. Write two prescriptions of alkaline solutions in water. Give an indication for the use of each and explain the rationale of the action intended to be produced.
3. Given a case of diphtheria in a family in which there are other young children, what preventive measures would you institute? What treatment would you give to the patient from every point of need?
4. Give the dose of phenyl salicylate. In what general conditions is it indicated and what chemical action takes place when it reaches the intestinal tract?
5. What is the therapeutic value of the following named acids: (a) Acidum hydrochloridum dilutum. (b) Acidum lacticum. (c) Acidum phosphoricum dilutum. (d) Acidum hydrocyanicum dilutum. (e) Acidum salicylicum.
6. With what remedies and other measures would you combat exhaustion of the heart's action (a) in pneumonia (b) in cardiac dilatation? What precautions and treatment would you recommend to prevent possible cardiac failure in the third or fourth week of typhoid fever?
7. How would you treat a case of influenza? What precautions would you institute to prevent pneumonia as a complication and what measures would you employ to prevent the spread of the contagion of the influenza?
8. Write a prescription in the metric system, without abbreviations, for the treatment of: (a) impetigo, (b) whooping cough, (c) hemoptysis.
9. What diseases may be transmitted through unclean and infected milk? What means would you employ to prevent such diseases from the use of milk?

10. In the treatment of the first stage of syphilis, give the various forms of mercury and arsenic which might be used to meet the different indications. State the dose and special indications for each of the preparations selected.

CHIROPODY

ANATOMY AND PHYSIOLOGY

1. (a) Describe the anatomy of the skin. (b) State its functions.
2. Describe the circulation of the blood, beginning with the skin of the foot till it again returns to the foot.
3. (a) Describe the anatomy of the kidney. (b) Explain its functions and its method of performing them.
4. Describe (a) the anatomy of the liver; (b) its functions.
5. (a) Name the muscles of the foot. (b) Describe the action of each.
6. Define: (a) tendon; (b) ligament; (c) bursa; (d) synovial membrane. Cite an example of each.
7. How would you recognize flatfoot? By what is it caused?
8. (a) Name the joint in which bunion most usually occurs. (b) Describe in detail the structure of the joint.
9. (a) What do you understand by "epithelial cells"? (b) What is their function? (c) Cite an example.
10. (a) State the general divisions of the nervous system; (b) describe the functions of each.

PRACTICE, HYGIENE AND PATHOLOGY

1. (a) What is a "trench-foot"? (b) Describe its pathology; (c) its treatment.
2. (a) What is a bunion? (b) Describe its pathology. (c) How would you treat it?
3. (a) What is the cause of offensive sweating of the foot? (b) How would you treat it?
4. State (a) conditions in which you might employ a caustic. (b) What caustic agent would you use? (c) What dangers might result from the improper use of caustics?
5. Describe in detail two methods for the removal of a heloma, giving the pre- and post-operative treatment.
6. The presence of what symptoms or conditions in the foot or in the general condition of the patient would lead you to regard the case as one that should not be treated by you at that time?
7. (a) What causes fissures between the toes and how should they be treated? (b) What causes blisters on the heel and on the center of the sole of the foot and how would you treat each?
8. How would you treat any part of the foot affected by inflammation or infection, prior to doing an operation?
9. State the pathology of (a) a hard corn; (b) a soft corn; (c) an ingrown toenail; (d) a flat foot.
10. (a) Enumerate the conditions of the foot that may arise from badly fitted shoes. (b) State in detail in each instance the method of prevention and the explanation.

DRUGLESS THERAPY

ANATOMY AND PHYSIOLOGY

1. (a) Describe the physiology of respiration; (b) state its functions.
2. Describe in full the process of digestion.
3. (a) Describe the anatomy of the kidney; (b) explain its functions and its method of performing them.
4. Describe (a) the anatomy of the liver; (b) its functions.
5. (a) Explain the physiological circuit essential to a reflex action; (b) give an example of reflex action.
6. (a) State the nine regions of the abdomen; (b) name the organs contained in each region.
7. (a) Name the various nervous systems of the human body; (b) describe the functions of each.
8. (a) Name the various types of joints; (b) describe in deatil any one of the large joints of the body.
9. (a) Name the columns of the spinal cord; (b) the subdivisions of the brain; (c) the several divisions of the spine.
10. (a) What do you understand by elimination? (b) What organs are concerned in elimination? (c) Name the product of each organ.

SYMPTOMATOLOGY, DIAGNOSIS, HYGIENE AND PRACTICE

1. (a) State the difference between a sprain and a fracture; (b) differentiate the symptoms.
2. Differentiate the presence of free fluid in the abdomen from intra-abdominal fluid contained in a sac. Detail the manner in which the circulation is influenced by manipulative methods.
3. (a) Describe the early signs of cancer of the breast; (b) differentiate cancer of the breast from a benign tumor of the same organ.
4. Give in detail the physiological effects of hot and cold baths.
5. Discuss the early diagnostic symptoms of tubercular disease of the hip joint. State the significance of each symptom.
6. Differentiate chronic constipation from true bowel obstruction.
7. State the essential points of difference between (a) acute appendicitis; (b) acute indigestion; (c) typhoid fever.
8. Discuss fully under what conditions abdominal manipulations may be (a) beneficial; (b) harmful. Give reasons in each instance.
9. What diseases would you suspect and what investigations would you make in a case of dropsy of the legs?
10. Differentiate intercostal neuralgia from pleurisy.

PATHOLOGY

1. Given a case of progressive debility without fever in middle life, name three possible diseases and indicate what laboratory procedures might aid in establishing the diagnosis in each.
2. What peculiar disease conditions may result from abnormal tonsils?
3. Name two bacilli that are apt to affect the respiratory tract. Describe the action of each.
4. What organic changes are found in chronic interstitial nephritis? What are its urinary characteristics?
5. How is the heat of the body produced? How regulated? What is the pathological significance of a continuatious increase above the normal?
6. Describe the gross lesion (a) in tabes dorsalis; (b) in apoplexy.
7. Name the signs and symptoms of each of the stages of syphilis. At what time is each apt to appear?
8. What signs would make you suspect inherited syphilis in a child?
9. Outline the various tests which aid in diagnosing suspected tuberculosis.
10. Name five bacteria, telling in what particular way each may be identified.

MASSAGE AND ALLIED BRANCHES

ANATOMY AND PHYSIOLOGY

1. (a) Describe the anatomy of the skin; (b) state its functions.
2. Describe the circulation of the blood beginning with the skin until it again returns to the skin.

3. Describe (a) the anatomy of the kidney; (b) explain its functions and its method of performing them.
4. Describe (a) the anatomy of the liver; (b) its functions.
5. Define (a) tendon; (b) ligament; (c) bursa; (d) synovial membrane. Cite an example of each.
6. (a) What do you understand by "epithelial cells"? (b) Cite an example. (c) What is their function?
7. (a) State the nine regious of the abdomen; (b) name the organs contained in each region.
8. (a) What do you understand by "elimination"? (b) What organs are concerned in elimination? Name the product of each organ.
9. (a) Name four ductless glands of the body; (b) discuss the function of each.
10. (a) Name the columns of the spinal cord; (b) indicate the more important functions of each.

PRACTICE, HYGIENE, PATHOLOGY

1. What conditions in a joint would contraindicate your method of treatment? In conditions of the joint which would be applicable for your treatment, before beginning any manipulation of the joint, what precautions would you take?
2. In a tardy restoration of complete function following a fracture of one of the long bones, discuss in detail the treatment of the case.
3. Name and describe the various forms of baths employed in hydrotherapy. Give a general outline of the conditions as regards the patients that would guide you in the employment of each.
4. Detail the treatment suitable for the relief of constipation, stating the purposes of each manipulation. Indicate any dangers which might obtain in case a mistake in diagnosis had been made and the case proved to be one of true bowel obstruction.
5. What dangers may follow an abrasion of the skin? Under what circumstances might this occur in the course of your manipulation? In case such abrasion should occur, what precautions should be taken?
6. Discuss fully under what conditions abdominal manipulation may be (a) beneficial; (b) harmful.
7. State under what conditons you would use (a) hot, (b) cold applications; give in detail the reasons together with actions of means employed in each instance.
8, Detail the manner in which the circulation is influenced by manipulation methods.
9. In paralysis of a limb what pathological conditions may be present? In the case of each lesion, how would you treat the limb?
10. What is obesity? How would you treat it? Explain just what the method of treatment is expected to accomplish and how.

SOCIETY

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting of Jan. 1, 1919, at 8 P. M.

The President, Col. Richard H. Harte, in the chair.

Reconstruction Program of the Public Health Service.—Senior Surgeon Charles E. Banks, U. S. P. H. S., Washington, D. C.: Whoever writes the history of the present war will find among the most significant of its developments the achievements of our profession in the field of preventive medicine; in the huge army of nearly five millions mobilized in the United States there have been less than 200 cases of typhoid fever. One may safely say that as a result of the remarkable work in sanitation and preventive medicine carried on by the allied medical organizations hundreds of thousands of fighting men were preserved from ignominious death from preventable disease. That which has been accomplished in the military zone under most unfavorable environments can be duplicated in civil life under less complicated conditions. The men whose lives were saved by the application of modern sanitary methods and the principles of preventive medicine understand the necessity for the application of sound sanitary principles to the ordinary daily walks of life. They will not only practice these principles themselves, but demand that those in authority in health matters shall apply them in the interest of the public health. The superficial work which has characterized a good deal of our health activities in the past will be no longer tolerated. The medical profession must be prepared for a reconstruction of methods in connection with the public health. The saner logic of preventive medicine will supersede the ancient order of attempting to cure disease that has become established. The leadership in this period of reconstruction will naturally devolve on the United States Public Health Service. The program with which this national organization intends to meet the emergencies of the situation is comprehensive and far-reaching and for its full success is dependent on the cooperation of organized medicine. It meets urgent national needs by outlining health activities which are practicable and which will yield the maximum result in protecting national health and will diminish the toll of thousands of lives sacrificed by preventable disease and unsanitary conditions. The program comprises exhaustive work under industrial hygiene, rural hygiene, prevention of the diseases of infancy and childhood, water supplies (national development of safe water supplies), milk supplies (national development of safe milk supplies), sewage disposal, malaria (national development of measures for its control), venereal diseases, tuberculosis, railway sanitation, municipal sanitation, health standards, health education, collection of morbidity reports, organization and training for duty in emergency of the Reserve of the Public Health Service.

If this great world war found us unprepared let not the same be said of us in this period of reconstruction.

Dr. J. M. Anders: Public health activities have greatly suffered during the war, and this is perhaps especially true of civilian tuberculosis activities for the reason that many able workers were in the Army and Navy. Perhaps the most important of the lessons we have learned in the recent world war is the fact that the individual efficiency of the men on the firing line is the foremost factor in modern warfare. The large percentage of rejections, by the local draft boards, of the men called to the colors directs especial attention to the problem of physical education in this country during this reconstruction period. Every individual, it seems to me, should be taught how to promote his or her health, and I believe this could be best accomplished in connection with our public and secondary schools as well as in the colleges and universities. While the idea of universal military training should be encouraged, the scope of the plan should be, and the one presented tonight is, sufficiently comprehensive to include the entire American race.

I believe that if in the immediate future sufficient attention were devoted to the matter of physical education many of the details in the program just outlined by Colonel Banks would in due course be found to be unnecessary. All are probably aware of the fact that in England there has recently been formed a ministry of health which will combine and coordinate all the public health activities under one head. Such a reorganization of the public health activities in this country would be a consummation devoutly to be wished for, and it would certainly facilitate that which Colonel Banks has emphasized; namely, the necessity of sympathetic cooperation among all allied agencies having to do with public health work. Moreover, I feel strongly that there could be no more propitious time than the present to set in motion efforts to this end.

COUNTY SOCIETY REPORTS

DELAWARE—DECEMBER

The Delaware County Society met in the parlor of Morrison's, at Chester, December 19, President Janvier presiding and tendering a reception to the members of the county society. The meeting was called to order at 3:30 p. m., with more than the usual number of members present and as a guest Prof. D. M. Melchior, Lansdowne, professor of history at Girard College.

Resolutions on the death of Dr. Frances N. Baker of Media were presented by Dr. Alice R. Easby, and ordered suitably engrossed by the society. A resolution was introduced and unanimously adopted that the Delaware County Society pay the *per capita* assessment of its absent members to the state society, the amount to be raised by a special assessment of $1 levied on those at home; this met with popular approval and most of the members present paid their dollar at once. The society at this meeting also placed itself on record as being irrevocably opposed to the health insurance idea, as presented at this time. Our state representative, Hon. William T. Ramsey, has informed our Committee on Public Policy and Legislation that nothing can possibly be done with the bill for at least two years as the commission appointed to gather data in the matter of health insurance has not even touched on the physicians' side of the questions; so, now, with this amount of time on our hands, if we are caught "napping" as in the compensation farce we will have no one to blame but ourselves.

At the conclusion of the business session, retiring President Janvier presented the society with a beautiful circassian walnut gavel and block, the gavel being encircled with a band of silver on which was engraved, "Compliments of G. Victor Janvier." So ended the term of service as president of the Delaware County Society, of this scientific gentleman, who was untiring in his efforts to make each meeting better than the preceding one; and it is needless to say he succeeded, as each program has shown for itself.

Professor Melchior was then introduced and his choice of subject, "The Ethnological Factors Concerned in the World's War," was as timely as it was interesting. With his complete graphic maps, he pointed out the boundary lines of the belligerent countries, showed how the different peoples migrated from the orient into the present seat of war. He emphasized how impossible it will be ever to bring these people together, as they are as far apart in their ideas and ideals as the poles.

Those present then adjourned to the dining room as dinner guests of the retiring president.

Adam J. Simpson, Reporter.

LEBANON—JANUARY

The annual meeting of the Lebanon County Society was held in the Hotel Walton, January 14, at 2 p. m., with a large attendance. Annual reports were given by the various officers, and an excellent address by the retiring president, Dr. E. B. Marshall. The following officers were elected for the ensuing year: president, Dr. F. A. Rutherford; vice presidents, Drs. John L. Groh and E. K. Boltz; secretary, Dr. C. M. Strickler; treasurer, Dr. H. E. Maulfair; reporter to The Journal, Dr. S. P. Heilman; medical and surgical reporter, Dr. W. F. Klein; censors, Drs. W. R. Roedel, W. M. Guilford and J. C. Bucher; Committee on Public Policy and Legislation, Drs. S. P. Heilman, W. M. Guilford, S. Z. Shope, W. F. Klein and D. S. Bordner; Committee on 1919 Program, Drs. E. K. Boltz, J. L. Groh and W. F. Klein. One new member was elected. The society now has a membership of thirty-nine, three of whom (Drs. S. D. Bashore, John Beattie and J. E. Marshall) are in the U. S. Army Service; and is growing in interest, activity and membership. A letter, dated Nov. 25, 1918, from Dr. W. F. Donaldson, secretary of the state society, relative to payment of state *per capita* assessment for absent military members, was read and opinion expressed was that the matter is being attended to; that is, this Society is not delinquent in this matter.

S. P. Heilman, Reporter.

NORTHAMPTON—DECEMBER

The Northampton County Society met at the Easton Hospital, December 20. Dr. A. L. Kotz, pathologist of the Easton Hospital, gave an instructive paper on the "Bacteriology and Pathology of Influenza," which was illustrated by charts and microscopic exhibits. The extension of the inflammatory process downward along the bronchi and its spreading outward into the surrounding tissues, constituting the pneumonic feature of the disease, was illustrated, and the difference between this type of consolidation and that of ordinary bronchopneumonia and lobar pneumonia was explained. His study of the bacteriology of the disease described the variety of organisms always found, but failed to show any one organism as the specific cause. One important point brought out was the uselessness, and possible harmfulness, of vaccines for this disease.

Dr. J. E. Fretz of the hospital staff reported an interesting case of aneurysm of the thoracic aorta. The thorough presentation of the case, embracing laboratory examinations, physical examination, and finally postmortem examination, made up a valuable and instructive portion of this meeting's program.

W. D. Chase, Reporter.

THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

VOLUME XXII
NUMBER 6
CHICAGO, ILL., AND ATHENS, PA., MARCH, 1919
SUBSCRIPTION:
$2.00 PER YEAR

ORIGINAL ARTICLES

PLASTIC SURGERY OF FACE AND ORBIT IN RELATION TO WAR INJURIES*

HUNTER W. SCARLETT, M.D.

PHILADELPHIA

This subject may be divided into two broad classes, fresh and late wounds. The former comprise those seen not more than four to eight hours after injury. Their treatment in general is as follows: Removal of all foreign material and devitalized tissue, excision of edges of the wound until fresh tissue is reached, thorough irrigation with warm saline solution, Carrel-Dakin solution, or treatment with dichloramin-T. Next, closure of the wounds, provided there has not been too much loss of tissue, or, in that case, approximation of the edges as near as possible to the normal, and treatment henceforth as clean wounds.

The second type of cases, comprising those seen beyond eight to twelve hours after injury, must in some respects be handled differently, because they are always infected. Here, after removal of all foreign material, emptying of all pus pockets, and thorough irrigation with the above named solutions, the devitalized tissue is excised, and those remaining healthy tabs of tissue are approximated as near as possible to normal. Then either a thin moist saline dressing of gauze is applied, with removal and thorough irrigation every second or third hour, or the wound is left open to the air with intermittent or constant irrigation. In this way, thick dressings which soon become pus poultices are avoided.

Before reparative work is attempted, the wounds should be thoroughly cicatrized, and the scar tissue should be loose and supple. If an operation is attempted before these conditions are fulfilled, the wound is apt to break down, probably because of the subcutaneous infection which remains, and the incomplete restoration of the blood supply. In our experience, we found that reparative work around the face and orbit should not be attempted before two or three months, or even longer, had elapsed, the time depending on the position and extent of the wound.

Military wounds offer opportunity for all kinds of reparative work. One operation is often not sufficient; four or five, extending over a period of several months, are frequently necessary. During such a series, one may employ a combination of two or more types; such as Thiersch graft, Wolfe graft, transplanting of tissue *en masse* after thorough undermining of edges, or the use of a well-chosen pediculated flap from a nearby area.

Little comment is necessary on these types, but whatever operation is chosen, success is greater if tissue 30 to 40 per cent. larger than the area to be repaired is employed, thus preventing undue shrinking.

Pediculated flaps proved most successful in our cases. They may be chosen from temporofrontal region, if the lesion to be rectified is a large ectropion of upper or lower lid; from the midfrontal position, if the wound is in the nasal region, or from the face or neck, if there is a lesion of the lips or face.

In a pediculated flap operation, the essentials are (1) a wide flap with sufficient subcutaneous tissue; (2) length somewhat longer than the extent of lesion; (3) a wide base insuring sufficient blood supply and nourishment, thus preventing sloughing. In ectropion operations, the incision should be about one-half to one centimeter from the border of lid. Edges should be well undermined, and when the flap is sutured in place, either a partial or complete blepharorrhaphy should be performed to hold the lids in position.

The restoration of the cul-de-sac, to admit of a false eye, proved to be one of the most difficult operations. In a case where the upper lid was intact, we found that a flap of skin from it, with a base at the external angle, sutured into the incision made in the conjunctiva, after undermining the edges, proved to be

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

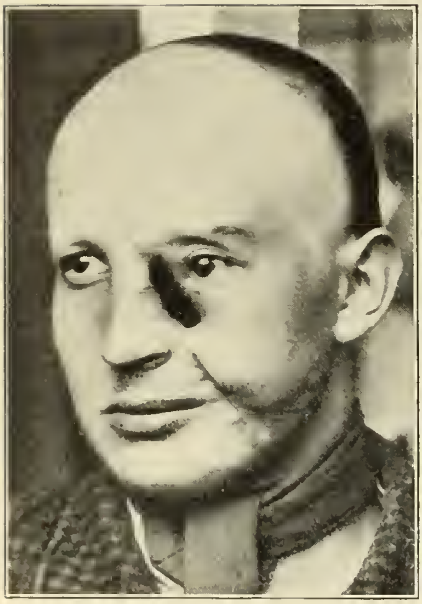

Fig. 1.—Injury from rifle ball, causing loss of facial tissue, with the resulting cicatrix and a clean punched-out wound at junction of the nose and inner angle of the left eye.

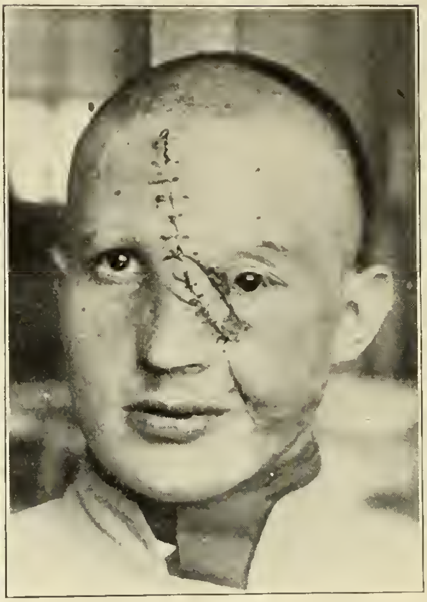

Fig. 2.—Flap from mid frontal region turned on its base 75 degrees.

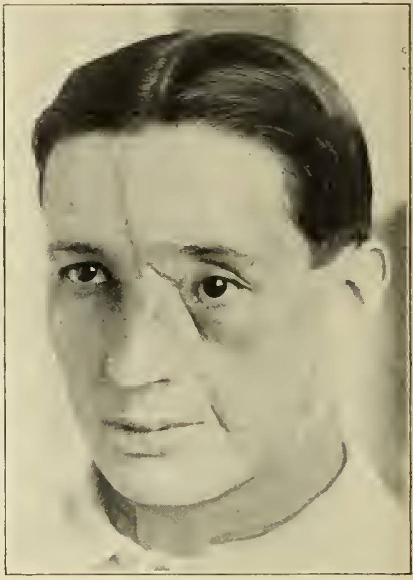

Fig. 3.—Final result after excision of the facial cicatrix.

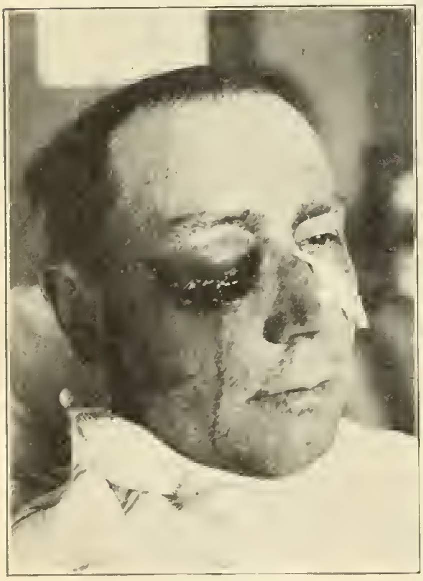

Fig. 4.—Shell wound destroying right globe, and almost the entire right lower lid.

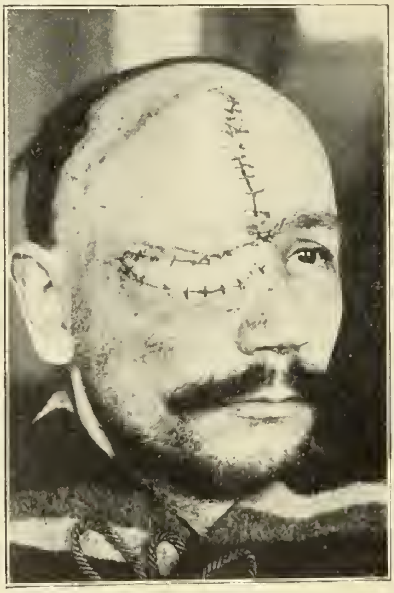

Fig. 5.—Flap taken from mid frontal region, and turned at right angle, to supply the necessary tissue for the lower lid.

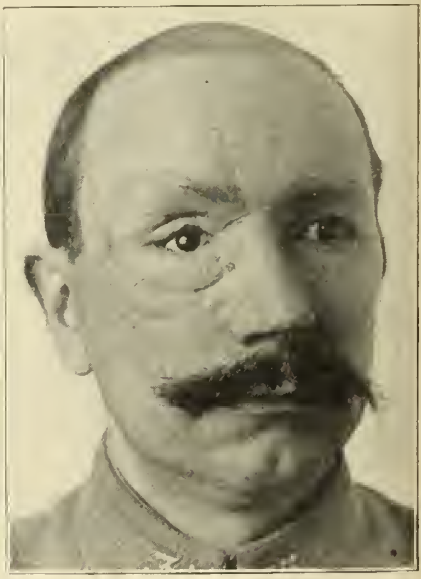

Fig. 6.—Final result with prothesis in place.

the best method. Flaps taken from the temporal region or from the face are more cumbersome. Thiersch grafts frequently slough out, while Wolfe grafts were not as successful as a flap with a base attached.

In cases of slight ectropion situated at the inner or outer angle, an incision freeing the ectropion and then transplanting a small flap of tissue from the upper to the lower lid, or vice versa, will readily correct the condition.

Linear scars resulting from flap transplantings disappear with marked rapidity among the wrinkles of forehead or face.

The pictures shown will demonstrate more clearly the nature of the wounds and the reparative operations.

2228 Locust Street.

DISCUSSION

Lieut.-Col. George E. de Schweinitz, Philadelphia, regretted that he had been prevented from hearing Dr. Hunter Scarlett's paper, which fact, therefore, must be accepted as his excuse in case he should describe procedures which had already been discussed. He had, he explained, spoken before the Ophthalmic Section of the American Medical Association last June on this subject, and necessarily would be obliged to repeat some of his remarks on that occasion.

As is well known, war wounds as they occur on the western front were frequently multiple, and when implicating the head and, especially the facial and orbital areas, comparatively rarely concerned themselves with the eyelids alone; in other words, the ophthalmic surgeon must be prepared to undertake the larger procedures of plastic surgery, or, being unable or unwilling to attempt them, should operate in cooperation with a plastic surgeon, or an oral and plastic surgeon.

He described at some length the work of one distinguished French ophthalmic surgeon, who enlarged his field of work to include the maxillo-facial area, and the work of an English ear, nose and throat surgeon, who with equal skill reconstructed the nose, performed the various blepharoplastic operations and restored the lower facial defects in association with communicated jaw fractures requiring often extensive bone grafting.

It was pointed out that if various types of lid wounds could be seen early, for example within the first four to six hours, and the conditions were such that they could be at once repaired, the subsequent distortions were materially lessened. The care with which the sutures must be applied was particularly dwelt on. Careless and ill-advised suturing is capable of much harm.

Although not strictly germane to the subject under discussion, Lieutenant-Colonel de Schweinitz discussed primary enucleation with implantation, expressing his own satisfaction with the implantation of gold spheres in Tenon's capsule, associated with suturing of the eye muscles. But he pointed out that many, if not most, of the English and French surgeons believed in the superiority of natural tissues in contrast to metallic or glass prosthesis. The cartilage was usually taken from the patient's eighth rib, shaped into suitable spheres and sutured to the inside of Tenon's capsule. Magitot, however, preferred to use cartilage from a calf or lamb rib, which was kept in 10 per cent. formol and carefully freed from this preservative prior to implantation.

Reference was made to the method of restoring contracted and closed eye sockets by a procedure similar to the Esser method. The usual dissection opened the socket, a cartilage graft was placed within a pocket at the bottom of the orbital cavity, or if possible in Tenon's capsule, and stitched into place; next a large Thiersch graft was wrapped around a suitable mould of "stent," namely, dental modeling composition was inserted, or a glass ball was employed as a conformer, and the lids sewn together. At the end of ten days if the stent had been used, the lids were separated, the mould removed, and in fortunate circumstances it was found the graft had "taken"; such grafting might have to be repeated. Epithelial inlays were also described in the treatment of ectropion.

In addition to the ordinary procedures of blepharoplasty, reference was made to very large skin flaps taken from the upper chest and nourished by long pedicles cut along the line of the sterno-cleidomastoids, which were used in facial plastic surgery.

Reference was made to the practice of requiring the patient to be his own "cartilage carrier." Thus, if the skin cartilage graft was likely to be needed at some future time in the restoration, for example, of a nose, the piece was implanted under the skin of the brow, at a position from which it could, neatly covered by integument, be swung into place. Cartilage was often imbedded under the skin of the abdomen, where it was vitally preserved until needed.

A description was given of "cartilage props" to prevent the sag, for example, of a restored lower lid, especially at the inner angle, by planting behind and below the flap a strip or plate of cartilage of suitable size.

Lieutenant-Colonel de Schweinitz made special mention in all these and other types of plastic surgery to the work of Magitot in France, Major Gillies and his colleagues in England, and to Red Cross Hospital No. 1, under the directorship of Colonel Hutchinson.

Dr. Burton Chance, Philadelphia: I am sure you will all be interested to know what preparations are being made for the care of American soldiers. Dr. Scarlett has told you what he has done for the French. It is my good fortune to be assigned to Cape May where the men who are wounded in the head are sent. They have all been given first aid on the other side, and some of them were wounded as recently as July 20. We have at Hospital No. 11 dental and plastic surgeons, so that every chance for as complete restoration as possible is afforded, and I hope in the course of the winter to prepare an exhibition to show what the hospital is equipped to do.

Dr. George B. Jobson, Franklin: Dr. Scarlett's presentation of the subject of plastic facial surgery, as practiced by him while in France, is very timely and instructive, and shows the excellent results that may be obtained along this line.

For the past fifteen years I have used large dermic grafts in a number of cases in which it was necessary to regenerate all or a part of the lower lid, and for some cases of scarring of the face, after excision of the scar tissue and replacement by a portion of skin from the inner surface of the upper arm. By selecting the skin from the inner surface of the upper arm, I have not had the occurrence of the objectionable shrinkage, which is claimed by many operators. The reasons for selecting the skin from this region are that it contains no fibrous tissue to contract; it is thin and consequently easily handled, and it is devoid of hair.

A portion of skin, which is at least a third larger than the loss of tissue, is marked out, and this is carefully dissected off with blunt-pointed tenotomy scissors, without removing the subcutaneous fat. The graft is transferred to the denuded and dried surface, carefully fitted, and stitched at several points with iron-dyed silkworm gut, or fine horse hair, and sterile gauze compresses are applied. The advantage of this method over pedicle grafting is that the face is not disfigured by additional scarring. It is seldom that the graft does not grow, and, if it should fail, pedicle grafting may be resorted to later.

Dr. Scarlett, closing: Reference was made to the employment of cartilage in the use of stumps for the enucleated eye, and also for making new noses. We used some cartilage grafts for stumps, and our success was fairly good. The success with cartilage, used for making new noses, was not so good. I think it depends a great deal on the length of time after the implantation to determine whether the cartilage will absorb. In one case we implanted a piece of cartilage from the rib into the forehead. We did that shortly after the patient came into the hospital with the hope that when it was time to rectify his nose it would be properly adherent to the skin. Unfortunately the cartilage was entirely absorbed and we had to proceed as I have shown you in the picture.

SOME OF THE POSTOPERATIVE SEQUELAE OF ACUTE APPENDICITIS *

JOHN B. DEAVER, M.D.
PHILADELPHIA

It is only by occasionally reviewing our work and by careful consideration of our statistics that we can properly improve and correlate our clinical and operative procedures with the pathologic data at our command. It is for this reason that we have thought it worth while to consider some of the postoperative sequelae of acute appendicitis.

In 1,700 operations for acute appendicitis collected from recent records at the Lankenau Hospital of Philadelphia, sixty-six deaths gave a mortality of 3.7 per cent. The series included all cases of acute appendicitis with and without preoperative complications directly due to the condition of the appendix or to the involvement of other viscera.

The more frequent postoperative sequelae requiring one or more subsequent operations were fecal fistula, secondary abscess and intestinal obstruction, as follows: Fecal fistula, 42 with 6 deaths; secondary abscess, 30 with 6 deaths; intestinal obstruction, 27 with 11 deaths. It is these postoperative conditions to which we propose to limit our discussion.

Fecal Fistula.—In addition to the above there were six operations for fecal fistula following acute appendicitis, the original operations having been done elsewhere; one death falls in this group. There were also 28 additional postoperative fecal fistulae, 22 of which closed spontaneously, 4 were still open when the patient left the hospital and 2 fatal cases with the sinus still open at death. One of the latter developed two fistulae, one of which closed spontaneously. Altogether, then, there were 76 cases of fecal fistula and 10 deaths.

From this it appears that the incidence of this postoperative complication of acute appendicitis is about 4.4 per cent. with a mortality of 14.7 per cent., and that 2.8 per cent. require secondary operation, the mortality of which is 16.6 per cent. (48 operations, 10 deaths).

Of the 48 patients operated on, 27 developed the fistula during convalescence from the appendix operation, the secondary intervention taking place as early as the third and as late as the sixty-third postoperative day. In the majority of instances, however, the first signs of the fecal discharge appeared during the second week.

Only one of the patients in this group came to the hospital and was operated on within twenty-six hours of the onset of symptoms of appendicitis.

The onset in this instance was not so serious as in the typical cases. The pain, however, was at once localized in the lower right abdomen and was accompanied by vomiting and frequent hiccough; later the pain was generalized over the entire abdomen. The bowels had not moved for 24 hours, and no purge had been given. There was also retention of urine. The patient was admitted with a temperature of 99 F., pulse, 108; respiration, 28; leukocytes, 9,100, with 68 per cent. of polymorphonuclears. There was general abdominal rigidity, more marked in the right iliac fossa. Peristalsis was entirely absent. At operation the appendix was found to be gangrenous and perforated at the base. Thin pus was present in the cecal region and the pelvis contained considerable pus with a fecal odor. Abscess formation had occurred in the subdiaphragmatic and the subhepatic spaces. The appendix was removed with ligature, clamp and cautery, the stump inverted and drainage tubes placed down to the cecal region, in the pelvis as well as to the subhepatic and subdiaphragmatic spaces. The fistulous opening developed on the twenty-first day, and at operation six days later it was found to lead to the cecum. After repair of the fistula the patient made an uneventful recovery and left the hospital in twenty-four days with a granulating wound.

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

Most of the deaths occurred when operation had to be delayed to the fifth and sixth days after the onset of the symptoms. Only one of the group came to the hospital within thirty-six hours of the onset, the others not until the fourth and fifth days.

The fistulous tract developed most often among the cases which presented themselves for treatment seven days or more after the initial signs of appendicitis had made their appearance; recovery took place in all these cases.

It would be erroneous to consider the fact that these patients got well an argument in favor of late operation. First and foremost no one can tell in which cases of appendicitis the inflammation will and in which it will not localize, or which will subside or which will develop into a fulminating case. And with special reference to fecal fistula as a postoperative complication of acute appendicitis, we see that it is more likely to result after late operations (after forty-eight hours) than after early operation. This is all the more plausible when we consider that one of the main causes of the complication is known to be the extension of the pathologic process (gangrene, etc) to adjacent organs or tissues, especially the cecum, the ileum, and the omentum. This extension is well illustrated in one of our cases in which the pathology consisted of an appendix curled on itself like a snail with its shell on its back, a perforated cecum, the result of ulceration, and fecal matter oozing from a perforation in the ascending colon 4 to 5 cm. from the cecum.

We may also expect fecal fistula to follow when the pathology precludes a complete and perfect operation in the treatment of the acute appendix. As, for example, when the latter cannot be removed, as happened in six of our cases; or where it has ulcerated off (two cases); or where the stump of the appendix can not be inverted (ten cases); or where it can only be partially removed. This is again well illustrated in a case where the median third of the appendix had perforated, the proximal third was buried beneath coils of ileum, and the distal third broke off spontaneously during manipulation; or as in another instance, where the appendix was tied up in a mass with the ileum and the cecum and could only be removed in pieces.

While the precipitating cause of postoperative fecal fistula in acute appendicitis is without doubt abscess formation, the pressure of drainage tubes on the intestines, especially where a septic condition gives rise to ulceration of the bowel, may produce pressure necrosis with the formation of a fistula as the result.

It is only in cases that come to early operation that we are able to dispense with drainage. Sixty per cent. of the cases that develop postoperative fecal fistula required the use of more or less extensive drainage at the original operation. Further comment seems superfluous, does it not?

Secondary Abscess.—This complication is recorded 33 times with 7 deaths, making an incidence of plus 2 per cent. and a death rate of 21.2 per cent. The secondary collection was:

Pelvic, 5 times (1 case with fecal fistula); subhepatic and pelvic, 1; subphrenic, 10 (3 cases with fecal fistula, 4 deaths); subhepatic and pulmonary, 1 (also with fecal fistula, 1 death); peritoneal, 4; abdominal wall, 3; intestinal, 2 (2 deaths); inguinal, 1; rectal, 1; vesical, 1; pulmonary, 1; mesenteric, 1; parotid, 1 (developed several months after subphrenic abscesses following operation for acute appendicitis).

A favorite theory that the greater number of secondary abscesses develop in the pelvic region and that they are due to the routine use of the Fowler position after operation is not borne out by the present series. The secondary collection was found in the subphrenic space, more often than in the pelvic region, the incidence of subhepatic and subdiaphragmatic collections being about equal. The prognosis of postoperative abscess in the subphrenic space, however, is not so good as when the secondary collection develops in the pelvic cavity; five of the fatal cases belonged to the former group.

A study of the pelvic secondary collections indicates the fault to be due, not to the Fowler position but to late operation, incomplete operation, and insufficient drainage. The connection between the generative organs and the appendix is too well known to require further elucidation at this time.

The results of the waiting policy in acute appendicitis are well seen in the following case:

The patient did not come to the hospital until the third day of the disease and frequent purging had aggravated the condition. The leukocyte count on admission was 30,100 and the polymorphonuclears 88 per cent. At operation free fluid was found in the peritoneal cavity. The appendix was large and gangrenous and much thick pus was present in the pelvis. A secondary pelvic abscess which was obstructing the sigmoid was drained on the tenth day. Ten days later (the twentieth postoperative day) another operation was required for the relief of a collection along the outer wall of the colon and also in the subhepatic space. The hepatic colon flexure was necrotic and was torn in draining the abscess; the duodenal wall had sloughed. A few days after this operation, at which the colon and duodenum were also repaired, a duodenal fistula developed and required a third intervention ten days after the second. At this time a small abscess near the splenic flexure of the colon was also drained and a posterior gastroenterostomy done. The patient left the hospital, on the seventy-eighth day after admission, with a granulating wound and a very small duodenal and fecal fistula in the lower midabdomen, which subsequently closed. The patient has been seen several times since and is now in excellent health.

All of the subphrenic secondary collections were pus cases at the original operation. Primary subphrenic abscess is unknown. It is practically always due to infection within the abdominal cavity or the peritoneal cavity, and in the majority of cases, I believe, is associated with disease of the appendix or with the operation as a result of that disease.

It is well known that infection from the appendix may extend to nearly all the subphrenic spaces and fossae and beyond, and that this extension may take place up the lumbar peritoneal fossae from the pelvis; or by way of the portal vein; or by lymphatic extension, the latter being probably the most frequent route and at the same time the most fatal. It is not surprising, therefore, to have so large an incidence of subphrenic secondary collections and likewise to find the infectious process passing beyond the confines of the subphrenic space to the lungs, as happened in one of the fatal cases in the group that came to operation on the third day of the disease.

The attack began with generalized abdominal pain localizing in the right iliac fossa in twenty-four hours. There was frequent vomiting. Purges were administered without obtaining any bowel action. Physical signs consisted of slight distention, marked lower, right abdominal rigidity. No masses were palpable. The appendix had perforated and was gangrenous at the base. The tip had spontaneously amputated. There was also thrombosis of the appendix artery. A fecal fistula developed and was repaired at operation on the twenty-fifth day, a subdiaphragmatic collection being evacuated at the same time. Sixteen days later a pulmonary abscess was incised and drained and death ensued several hours later.

Intestinal Obstruction.—This tragic postoperative complication of acute appendicitis occurred in our experience in about 1.5 per cent. of cases and presents the high mortality of 40.8 per cent. (27 cases, 11 deaths). (The original operation in four was done elsewhere). We were more fortunate with the children's cases, where we had thirteen consecutive operations for intestinal obstruction without any deaths. These are not included in this series. Many of the patients were doing apparently well after operation when the symptoms of obstruction suddenly developed. About 30 per cent. made a more or less uneventful operative recovery and developed the obstruction from one month to four years later. They usually gave a history of comparative freedom from symptoms until the sudden attack of ileus appeared, or, in other words, until adhesions formed a band, or contraction of adhesions caused a kink or volvulus of the intestines and produced the classical symptoms of progressingly severe pain, vomiting, visible peristalsis, distention and complete constipation.

An analysis of the cases shows that fully 70 per cent. required drainage at the original operation. There is no doubt that every case of acute appendicitis requiring drainage can safely be taken as an indication that operation was delayed beyond the most favorable moment. In the prevention of surgical complications there is nothing more important than to forestall the formation of pus within the peritoneal cavity. A large number of these cases would not have developed adhesions and consequent obstruction if the original appendicular disease had been treated early and no drainage had been required. By early treatment is meant not so much the duration of the disease as the extent of pathology found at operation. In this sense early refers to those cases where the disease is still limited to the appendix, and can be treated without drainage. The wound usually heals by first intention and with perfect cicatrization, the appendix can be removed and with it the source of future trouble. Most surgeons have realized this, but some internists are still unconvinced and it is not until they are convinced that we can hope still further to reduce the mortality of acute appendicitis as well as the incidence of the postoperative sequelae which occur in at least 5 per cent. of the cases and show a mortality of 23.3 per cent.

The question of operation after the most favorable time has elapsed is usually a question of the proper treatment of peritonitis which, though intimately related to our subject, would carry us beyond the scope of this paper. The peritonitis represents the conflagration which has been caused by the appendix. Attention must be directed to putting out the conflagration without at this time considering the cause.

Acute appendicitis is not only a most serious disease but also a highly insidious one, and for this reason we cannot hope to have a negligible mortality, nor 100 per cent. uneventful recoveries. We can and do present better results than the internists because the removal of the appendix at early operation at the hands of the skilful and experienced surgeon gives reasonable assurance of the removal of a focus of infection whose undermining and far-reaching effects are so unbounded, and some of which have been briefly outlined in this discussion.

In practically every case of death from appendicitis someone is to blame. The question is: who is at fault? Is it the wise and experienced parent or guardian or friend who refuses to consent to, or advises against, operation because *he* has had his appendicitis frozen out, or is it the ill-advised administration of an aperient or purge, or it is the doctor? It is too often the latter, I am sorry to say. Summing up the facts will undoubtedly show that purgation is the primary cause of the complications we have been discussing and late operation the main contributing factor. We know that war is hell, and so is purgation in appendicitis.

1634 Walnut Street.

DISCUSSION

Dr. H. J. Donaldson, Williamsport: Dr. Deaver has mentioned as postoperative sequelae fecal fistula, secondary abscess and obstruction, and to these I desire to add acute renal insufficiency, acute gastric dilatation and hemorrhage from erosion of drainage tubes.

Of the fecal fistula group my experience leads me to believe that the causes are gangrene of the base of the appendix involving some area of the cecum, failure to remove the appendix, erosion of the intestines by the drain, and ulcer of cecum due to thrombosis of the blood supply, or extension of gangrenous process.

To overcome this embarrassing occurrence, it has been my habit of recent years always to remove the appendix, to free the adhesions sufficiently to admit of invagination of the cecal wall if gangrenous, and to effect an early change in the position of my drainage to prevent pressure on the bowel or large blood vessels and other important structures.

One of the greatest lessons I have had in drainage tube accidents was a sudden death of a man, rapidly recovering from a general peritonitis, who, on the seventh day, developed a hemorrhage from his iliac artery and died in a few minutes.

After an operation for gangrenous appendicitis, I allow no physic to be given until the evening of the fourth or the beginning of the fifth postoperative day, and until the patient is passing flatus, which is usually secured by an enema. It was formerly the rule to begin a course of calomel within twenty-four hours after the operation, but I discovered that it only increased the nausea, relaxed the pylorus and aggravated a beginning gastric dilatation, and if the patient were nauseated twelve hours after the operation the only thing indicated was the stomach tube, and elevation of the head of the bed. Gastric lavage every two hours, sometimes continued over a period of seventy-two hours following the operation, would overcome the dilatation and save life, and this condition most frequently occurs in people with large fat abdomens, and in my experience it occurs more often than obstruction.

Obstruction of the bowels following operation for appendicitis is due to a variety of causes, and is accompanied by a very high mortality. Dr. Deaver has mentioned the causes, and aside from paresis of the intestine, due to peritonitis, the most usual causes are the adhesions due to Nature's efforts to wall off the abscess. I have seen cases of obstruction six and eight years after an appendiceal operation, and have found the cecum occupying the most unusual positions in the abdomen; these positions are due, I believe, to the contraction of the adhesions and tension made on the cecum by the excessive peristalsis necessary to secure an action of the bowels. In one case, as an illustration, occurring eight years after an operation performed by a prominent Philadelphia surgeon, the patient came to me in a condition of acute obstruction with a history of recurring attacks of partial obstruction which commenced a year after his operation. I found at operation that the cecum and ascending colon and ileum had been transposed to the patient's left abdomen, occupying a position just below and posterior to the splenic flexure. The adhesions were dense and the intestine held in that position, as though imbedded in concrete, and yet the operator's incision was over McBurney's point, showing that at one time the cecum occupied a normal position.

To leave behind an appendix in a vast wall of adhesions invites fecal fistula and obstruction, so I almost always relieve the adhesion, remove the appendix and carefully look over the field for a secondary abscess.

My experience with secondary abscess has not been as painful as Dr. Deaver's, but one condition he has not mentioned is always in my mind whenever I see gangrenous appendix on the inner aspect of colon, and that is abscess of the liver. I have had two cases; both patients lived six or eight weeks after operation, and both died because I failed to locate the abscess, owing to lack of symptoms. Postmortem showed them high up in the right lobe, and also that the operative area was entirely recovered. The symptoms were typical of the abscess of the liver; no pain, no localized tenderness, a high irregular temperature of the pump handle variety, with profuse sweats followed by an intermission during which the patients would feel able to leave the hospital. The symptoms developed from seven to ten days after the removal of the gangrenous appendix, one of which was drained and the other was not.

By acute renal insufficiency I have reference to the total suppression of urine coming on in from twelve to twenty-four hours following the operation. It has occurred in my practice entirely too often for comfort and is due, I presume, to a sudden overwhelming of the kidneys by toxins. These patients all die, and, to eliminate this danger, I have the following formula of treatment posted in my surgical wards: In all the acute cases of appendicitis the patient on admission is to have the head of the bed elevated, an ice bag to his side, a simple enema given, to be followed by enteroclysis of bicarbonate of soda solution to be continued until brought to the operating room. I do not operate until the patient has been in the hospital under this treatment for some hours, or until the specific gravity of the urine falls below 1.025. This procedure, I believe, has greatly reduced my mortality rate in severe cases with local or general peritonitis.

Taking the official catalogue of the Williamsport Hospital as a referenece, eliminating all operations made for anything except acute appendicitis, I find from June, 1913, to June, 1918, 622 operations with 16 deaths, a mortality of 2.5 per cent., with the occurrence of fecal fistula in 4 cases; uremia, 2 cases; acute gastric dilatation, 8 cases; obstruction, 2 cases; secondary abscess, 2 cases. Let no one misunderstand the meaning of these figures, for they only prove Dr. Deaver's argument.

My cases come to operation earlier and in better condition, and his ninety-nine complications requiring operations with a mortality of only 14.7 per cent. only prove his great surgical skill in handling belated cases of acute appendicitis.

My deaths were mostly from general peritonitis, but include one from secondary operation for fecal fistula and two from abscess. I have never seen subphrenic abscess as a complication, and it is possible I have failed to recognize it. When I say I always remove the appendix, I mean I always do so, if the patient's condition will permit of manipulation, but there are cases where simple drainage is indicated, and it occurred in eleven cases in my group.

Dr. Deaver, closing: Dr. Donaldson has covered the subject so well that there is little left for me to say. Not giving medicine after operation, but letting the patient get well, was distilled into me as a boy in medicine. My father taught me in obstetrics to go into the room farthest away from the patient and to tell the nurse never to call me until the baby had been born, and I had no complications. I have had patients killed by enemas. I have had enemas given and have had to open the abdomen and take enema out of the peritoneal cavity. It occurred in two instances. Consequently I can appreciate what Dr. Donaldson said. I have never seen acute dilatation of the stomach. My interns carry a stomach tube in their pockets and not a stethoscope. The only use for a stethoscope is to listen to peristalsis where the pressure of your head would give the patient pain and you can introduce the stethoscope beneath the bandage. The surgeon's ears are so well educated that he does not need a stethoscope. What I have to contend with more is purgation. What are you going to do when you see a man with bellyache? When I get the bellyache I do not take castor oil. I rush for the paregoric bottle. Do not give salts as a purgative until you know what is the matter.

ASEPTIC TECHNIC IN OBSTETRICS *

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ERIE

Lea fixes the mortality resultant from childbirth in England at 0.4 per cent., about one-half of which is due to puerperal sepsis. In my home city there were, in 1917, 2,590 births with seven deaths from sepsis reported, or about 0.3 per cent. Mortality figures in puerperal sepsis are notably unreliable. There is, or has been, a tendency, which we deprecate but must admit, to ignore or disguise the actual cause of death in these cases. I know that I have seen a surprising number of cases of sepsis in the past few years in Erie, and not a few of these have developed after hospital deliveries.

Originally I was given the title of "An Aseptic Obstetric Technic for Country Practitioners." I had to ask for a modification of this. Until such a time as the hospitals have been cleaned up obstetrically, I should be ashamed to seem to criticize the efforts of those who must necessarily do their work under conditions far from perfect, and whose results are at least fully as good as the average of the city, if not better.

I have been disturbed at the frequency of puerperal sepsis in our city hospitals, and what I note here is the result of my attempts to determine the cause.

The condition is admittedly a wound infection, and implies, except in rare instances, the direct introduction into wounds of infecting micro-organisms foreign to the victim. While we speak often and glibly in obstetrics of auto-infection, I believe the frequency of this occurrence is relatively small. When infection occurs at or after childbirth we may not always be able to fix the responsibility. Indeed, it may not always be desirable that we should, but the responsibility is there just the same. For the purpose of analysis I divide this responsibility between the doctor and the hospital.

First, the doctor! I wish that every man practicing obstetrics could have at least one year's training in the operating room of some active and careful abdominal surgeon. We should thus acquire an "aseptic instinct" which would go a long way toward keeping us out of trouble in obstetric work. From contact with such a teacher and his clinic one gets habits of thought that are hard to acquire from the written or spoken word no matter how often repeated. Asepsis is easy to talk about and hard to practice consistently.

Together with our lack of perfect asepsis we have two other great faults which contribute to puerperal morbidity. I refer to overfrequent vaginal examinations and to undue operative interference. As to the first of these, if a careful abdominal and vaginal examination of the patient is made as a matter of routine two weeks before her due date, a diagnosis of fetal position which ordinarily holds good during delivery can be made. Fortified by this

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

knowledge and with abdominal examinations during labor to confirm, I find it possible to carry the majority of my patients through labor without further vaginal examination.

Unindicated operative interference, whether it be the application of forceps or undue haste in manually removing the placenta, adds a distinct risk. I feel that a certain amount of discretion should be used with the immediate repair. If the patient has been fatigued from a protracted or complicated labor, it is wiser to wait than to repair at once. Fatigue, toxemia, or hemorrhage must lessen individual resistance to infection, and the chances are that the long or complicated delivery has impaired the doctor's asepsis as well.

As to the hospital's responsibility, I have repeatedly noted in the delivery room, conditions which would not be tolerated in the operating room of the same institution. This is wrong. The technic and safeguards of the abdominal surgeon are even more necessary to the obstetrician. No one would think of running an operating room without a competent supervising nurse in charge. Now the delivery room nurses need supervision just as do those in the operating room, and they need supervision during the acutal delivery. I make particular point of this latter because in one of our hospitals all the supervising nurses, with a single exception, are members of a religious order, whose articles of faith forbid them to be present during the birth of a child.

I know that some pupil nurses need constant instruction and supervision, because I have had nurses with unscrubbed, ungloved hands, start to arrange sterile sheets and towels; I have had them ask me if I wanted to examine the patient under the sheet, and I have had them tell me that the head was high up because they had separated the labia and looked.

What abdominal surgeon would be satisfied with instruments sterilized, dried, and wrapt in a sterile towel ready for use? Or with bulk catgut out of a jar of alcohol, instead of individual tubes boiled with the instruments? This is not an exaggeration, but based on actual experience.

There are, of course, possibilities of infection outside of the doctor and the hospital. We all know the dangers of intercourse in the last days of pregnancy, and the menace of a self-examining patient. I believe also that the tub bath in the last two weeks of pregnancy may be a possible source of infection. I mention these, but I am anxious not to give them a position of undue importance, for I feel that our hope of improvement lies primarily with the doctor and the hospital, and that they are the people we should keep after continually.

High individual resistance protects many women from serious results. Before asepsis was known the great majority of obstetric cases managed to survive somehow. Some women still manage to survive—somehow! I cannot rid my mind of the belief that the mortality from puerperal sepsis should be nil.

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DISCUSSION

DR. ALFRED HEINEBERG, Philadelphia: The essayist has presented a very timely subject for our consideration. In these days when it has become a custom for women to seek hospital treatment for confinement, it should be the aim of those hospitals which admit cases of this kind to eliminate as much as possible the chances of infection. The development of an aseptic technic in obstetrics in hospitals should not be any more difficult than the development of an aseptic technic for other operative procedures. The difficulty resides not so much in the establishment of the technic but in commanding adherence to its regulations.

Hospitals should provide a delivery room separate from the operating rooms and it should have, as the essayist contends, as careful supervision by the nursing staff as the operating rooms. The ideal measure which has been adopted by many hospitals is to have the obstetric department in a building separated from the main building, so that neither the nurses nor the patients are likely to come in contact with sources of infection from the other departments of the hospital.

In those hospitals in which obstetric facilities are extended only to a limited number of members of the staff, the problem of eliminating infection is much easier than in those so-called "open-hospitals" which admit patients from any reputable physician, who is permitted to attend his own case. Strict observance of the aseptic regimé in hospitals should be insisted on and those physicians who do not conform to the rules should forfeit the privileges extended. This should apply not only to the attending physician but to the interns as well, many of whom are not interested in obstetrics and who look on the maternity service as a drudgery which must be undertaken in order to receive the hospital certificate. Only recently I was greatly shocked on entering the delivery room to find the intern with a lighted cigar in his mouth attending a women in labor.

Physicians should be made to realize that an infected patient is a menace, not only to herself but to all patients of the institution. A point very well taken by Dr. Strickland, and a most important one in my opinion, is the advisability of every obstetrician having "at least one year's training in the operating room of some active and careful surgeon in order to acquire an aseptic instinct." This brings up indirectly the question of the reunion of obstetrics and gynecology which have had a tendency to be divorced from one another during the last twenty or twenty-five years. The daily contact of the gynecologist with the unfortunate results of obstetric disasters, both of septic and other origin, makes him appreciate that in obstetrics, as in other branches of medicine, prophylaxis represents the highest attainment of the healing art. Realization of this fact cannot help but make of him a better obstetrician.

As to the question of immediate or delayed repair of lacerations, much might be said on both sides of the question, but the limited time allowed to me will not permit of my entering on this phase of the subject.

There is no doubt but that patients are infected by too frequent vaginal examinations during the progress of labor. This difficulty can be overcome completely by making rectal examinations with a gloved finger. While such practice is not indulged in with sufficient frequency to permit of accurate diagnosis, I understand from those who practice the method that they can determine quite as much as to the progress of labor as they could formerly through vaginal examinations. In this, as in other methods of diagnosis, the question seems to be purely one of experience.

While there has been a tendency in the presence of puerperal sepsis to hide our shortcomings and mistakes behind the wall of auto-infection, such cases do undoubtedly occur. A few years ago I attended a patient who had spontaneously delivered herself of fetus and placenta before I could reach her bedside. No vaginal examination was made, either before or after the delivery, nor was there a douche employed, and yet within twelve hours she developed a chill and a temperature of 104 F. and all of the usual symptoms of a septic infection. In the course of ten days she developed a purulent cellulitis of the right broad ligament which was treated by abdominal incision; the pus evacuated from the abscess was a pure culture of the gonococcus.

Dr. Strickland's short but pithy paper so well covers the subject that it leaves little to be said except to emphasize that the decrease of puerperal sepsis in hospital patients depends on the conscientious, interested cooperation of hospital, nurse and physician.

Dr. G. Victor Janvier, Lansdowne: I suppose that I should explain that I am simply a general practitioner with obstetrics as a hobby, doing consultation work in the slums with the third and fourth year men at the University of Pennsylvania. Therefore, I look at it from the standpoint of both the obstetrician and of the general practitioner, and the great fault I have to find with the general practitioner is that he does not observe consistent aseptic technic when he goes in to his patient. He spends ten minutes scrubbing his hands, trimming his nails, donning sterile gown, putting on a pair of absolutely steril gloves and goes in through labia and introitus reeking with *Bacillus coli* and every bug that ever wafted its wings. The general practitioner argues that he has not time to give this attention, that he has too many other visits to make. The general practitioner who does not scrub his patient as religiously as he does his own hands is worse than the man who conscientiously scrubs her up to make several examinations. Like the man who has read the paper today, he has done less damage than the man who goes into an unscrubbed introitus. I have found in my experience, since 1911, that it is very difficult for me to make a diagnosis through an undilated os, and I take my stand that there are very few general practitioners who can go into a rectum or vagina with undilated os and diagnose two weeks before hand whether they have an occiput posterior or an occiput anterior and on which side it lies. I have seen lots of men of wonderful general ability fall down, call me up and say, "Come and help me out, I have a breech," when they had a head. I argue that it is hard for the general practitioner to make an accurate diagnosis two weeks before hand and know what is to come off two weeks later. So far as the nurses are concerned, a nurse may scrub a patient, she may be careful about her own hands, and yet go in the bathroom, get a bedpan off the floor and place it without any sterilizing under the patient's buttocks. It is done in hospitals; I have seen it. Let us watch our nurses on the bedpan question. It may sound foolish for me to propound such a question, but you may ask the nurse if she has scrubbed up the patient, and find the nurse did not first sterilize her own hands and merely dabbed the patient with little pieces of cotton and sterile soap. To scrub the patient you must do it thoroughly. I think one of the greatest sources of infection in the Southeastern Dispensary is because we are too much in a hurry and do not scrub up our patients with sufficient care.

Dr. Strickland, closing: I am satisfied that obstetrics is improving, and yet we have lagged behind abdominal surgery sadly in the application of asepsis to our work. The failure to demand and receive adequate recompense for obstetrical service has had much to do with this. Today the public is awakening fast to the importance of obstetrics, and the man who is locally known as doing good work in this line has little trouble in getting a decent fee. Any man who cannot afford to give his time and best efforts to an obstetric case, should get out of that line of work, for his own sake as well as for that of his patient.

THE FALLACIES OF THE METHODS OF GIVING COLONIC IRRIGATIONS IN CHILDREN *

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AND

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PHILADELPHIA

Colonic irrigation, enteroclysis, or high enema, has been recognized for years as being one of the most valuable methods in the treatment of disease, in adults as well as in children, and various methods of administration have been, and still are, employed. Among other indications for the use of this therapeutic measure might be mentioned the reduction of temperature, the relief of constipation, the elimination of gas, the quieting of the nervous system, the increase of renal activity and the administration of nourishment and drugs. The apparatus needed consists of a container for the fluid, held 18 to 24 inches above the level of the patient, to which is attached a rubber hose, at the end of which is a glass or hard rubber tip, and a soft rubber rectal tube or catheter.

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

It is our custom to first pass the well-oiled rectal tube or catheter into the rectum about 2 inches, the child lying on its back or left side on a Kelly pad. The tube is held in this position for a few minutes to allow of the escape of gas, as it has been found that the pain frequently complained of during colonic irrigation is entirely avoided if the gas is first gotten rid of. It is equally important to rid the tube attached to the container of all air by letting a few drops of fluid pass through. The free end of the rectal tube or catheter is then slipped over the glass or hard rubber tip so that continuous connection exists between the child and the solution to be used, and the catch is then gradually sprung so that the fluid begins to flow slowly into the colon, the insertion of the rectal tube or catheter being at the same time gradually increased, often to a distance of 8 or 10 inches or more. The fluid used is usually either normal salt or 2 to 5 per cent. sodium bicarbonate solution; the temperature is about 100 F., and the quantity employed is rarely less than 2 quarts, and much more if it is not returning clear. The rectal tube or catheter has two holes at the end to be inserted in the rectum, one at the tip and the other at the side about one-half inch from the tip, so that should one become plugged with mucus or fecal matter, the solution would pass through the other. When the colon is fully distended contraction takes place, which expels much of the contents, as shown by the squirting of the returning solution along side of the tube, so that there need be no fear of too much fluid being used.

Massage of the abdomen when the colon is distended with fluid is often beneficial. Urination practically always occurs during the giving of a colonic irrigation, and it is not surprising, therefore, that a child usually goes to sleep immediately after, if not during, the treatment, in view of the elimination of gas, mucus and feces from the bowel and the passing of urine from the bladder, to say nothing of the reduction in temperature.

On all occasions, when giving colonic irrigations with barium for roentgen ray studies, it was found that, when more than 4 or 5 inches of tube were inserted, it coiled on itself in the rectum, the end of the tube turning and coming back to the anus and, although apparently this did not interfere at all with the passage of the solution, as it was shown to have traversed the full length of the colon in spite of the coils, the occurrence of this coiling naturally suggested the question of the advisability and necessity of passing so much of the tube into the colon. Although no harm is done, even in typhoid fever, as the Peyer's patches are situated higher up in a child than in the adult, nor is the efficacy of the irrigation in any way diminished, we naturally seriously considered advising that the tube be passed only so far and so long as it remains straight, which would probably be from 4 to 6 inches, although this would be a very variable factor. While the practice of passing so many inches of the tube into the bowel is universally employed and recommended in all textbooks on pediatrics, some recommending that the catheter should be inserted its entire length, and everyone making use of this form of treatment reporting such universally good results, it does not seem that any necessity exists for the modification of the technic; at the same time, particularly in inexperienced hands, such as when a physician advises a mother to give a colonic irrigation, it might be well, in view of what we know happens when many inches of the tube are inserted, to direct that the insertion should not be more than from 2 to 4 inches. We have not observed a single case where the tube passed around the sigmoid flexure, as it was formerly supposed to do.

The above is true in both adults and children. On account of the greater relative length and redundancy of the infantile sigmoid, it seems even more improbable that the tube passes this flexure. We have experienced no difficulty in filling the entire colon, with but 4 inches of the rectal tube inserted. The patients experience less discomfort from an enema when but 4 inches of tube are inserted than they do when a greater length is used. While there is no particular harm from passing 10 or 12 inches of tube, it is unnecessary, and there is always the chance that the tube will buckle, shut off the lumen, and obstruct the flow.

The former teaching that the flow of the solution, after inserting the tip of the tube, would balloon out the intestine and allow the tube to pass around the sigmoid, is incorrect.

We do not claim any originality in this matter, as we know an illustrated paper was published some years ago on this subject, although a search of the literature failed to reveal the name of the author or the journal in which the article appeared, but we bring the matter to your attention for two reasons, (1) to remind you of the great value of colonic irrigations as a therapeutic measure, and (2) to suggest that the method might, in the future, be somewhat modified, at least to the extent of inserting the tube a shorter distance into the colon, and watching the result in order to determine, as we are endeavoring to do, whether or not just as good results would be obtained.

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DISCUSSION

Dr. Gustavus C. Bird, Philadelphia: No originality is claimed by either Dr. Mills or myself regarding the improvement in the technic of giving intestinal irrigations. In view of the fact, however, that it still seems to be the custum to pass 9, 10 or even 12 inches of tube into the colon in giving irrigations we feel that we are justified in urging against this practice. I have tried by every modification of technic to pass a rectal tube around the sigmoid, but in every instance the fluoroscope or roentgen-ray plate has shown that the tube lay coiled up in the rectum.

In roentgen-ray studies of the colon it is surprising to note how little fluid it takes to distend this portion of the bowel. In adults 1 quart of solution is usually sufficient, while in children it rarely requires more than 1 pint; so unless we desire continuous flushing it is not necessary to use a larger quantity.

In closing, I wish to urge that not only is it unnecessary to insert more than 4 inches of tube in giving irrigations, but by using this shorter length there is greater certainty of the solution passing freely into the bowel; there is less irritation to the intestinal mucosa, and less discomfort to the patient.

Dr. P. J. Eaton, Pittsburgh (chairman): The general discussion of the paper is now open.

I want to suggest a little trick of posture which has helped me very much in this particular thing. That is, in giving an ordinary enema, the mother should sit in a low chair, so low that the child lying face downward on her lap, should it roll would roll toward her body, and not by any mischance be able to roll onto the floor. The child's head should be towards the mother's left with its legs hanging over her right knee. In this position the child does not struggle, and if it wished to could kick only against air. The mother's left knee can control the action of the sphincter by pressing to a greater or less degree the buttocks. She can insert the tube with her right hand and after it is once inserted control the flow by pinching the tube. The fluid can be held in the bowel by the pressure of the left hand.

The children very soon come to recognize that this is a procedure accompanied by very little, if any, discomfort and many of them seem rather to welcome the operation. If colonic irrigation is desired, the mother can by raising her right knee elevate the baby's hips so that gravity will carry the fluid downwards and into the transverse colon.

I thoroughly agree with regard to the inserting of the tube. I think that 4 inches or so is enough. I do think the tube is less likely to curl or kink if this position is maintained, though if some small amount of fluid is allowed to go into the bowel as the tube is inserted, it will aid in the passage of the tube. This is my only suggestion on the subject.

Dr. J. O. Arnold, Philadelphia: There is another little detail of the technic I find of great value. I think Dr. Mills makes the remark in his paper, perhaps unintentionally, that the stopcock of the hose is opened at the proper time. I have always taught my nurses not to do that, remembering quite well the words of Professor Hare, in my student days, "Sneak up on the bowel without its knowing you are there." This is not done when you allow the bowel to be surprised with a flush of water from the sudden snapping of the stopcock. The catheter should be inserted while the tube is pinched with the fingers, and then let the fluid in a little at a time, using the fingers instead of the catch. This is only a little detail, but a detail which may mean the difference between success or failure in the treatment of the case.

Dr. Mills, closing: I have nothing further to say, Mr. Chairman, except that I want to thank Dr. Arnold and you for the suggestions, and I will be very glad indeed to give them a trial.

NUTRITIVE AND BLOOD CHANGES IN RATS ON CANCER INHIBITING AND CANCER STIMULATING DIETS *

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PHILADELPHIA

In reviewing some of the results of previous communications[1] on the relation of diets to the transmissible rat tumors, decided variations in the growth, energy and power to metastasize were noted. The rats were all from the same source, of the same age and of approximately the same weight, 70 to 80 grams, and used, as a rule, in litter units; they were inoculated from the same tumor strain, Flexner Jobling adenocarcinoma. In every experiment, rats from all diets were inoculated with pieces of the same tumor.

The diets used were chosen originally:

1. To decide whether a tumor could grow in a body rendered incapable of growth. This was based on the work of Mendel and Osborne,[2] who found that rats fed on a combination of pure vegetable protein, fat and carbohydrate could be entirely retarded in their normal growth although their general condition seemed entirely normal. This diet was gliadin, 18 per cent.; lard, 27 per cent.; starch, 24.5 per cent.; lactose, 25 per cent.; salt mixture, 2.5 per cent.; agar, 5 per cent.

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* Read at the General Meeting of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

* From the Laboratory of Comparative Pathology, Zoological Society of Philadelphia.

[1] Sweet, J. E., Corson-White, E. P., and Saxon, G. J.: Jour. Biol. Chem., XV, 1913, p. 181; XXI, 1915, p. 309

[2] Osborne, T. B., and Mendel, L. B.: Ztschr. f. Physiol. Chemie, LXXX, 1912, p. 307.

2. To study the effect of diets which supposedly exerted their influence through their action on the ductless glands. Oats and potassium iodid; egg and milk are diets which, according to the work of Reid Hunt,[3] respectively stimulated and inhibited the action of the thyroid gland. Normal diet with sudan III in olive oil is a food mixture which apparently caused atrophy of the thymus gland. These diets were controlled by castrates on normal diet.

3. To investigate the effect of additions to a normal diet of substance supposed to act as stimulators of growth. These were normal diet and olive oil, normal diet and cod liver oil, normal diet and vitamins (autolized yeast). The normal diet used in all experiments was meat, bread, cooked and raw vegetables, a diet on which the rats grew normally and bred normally.

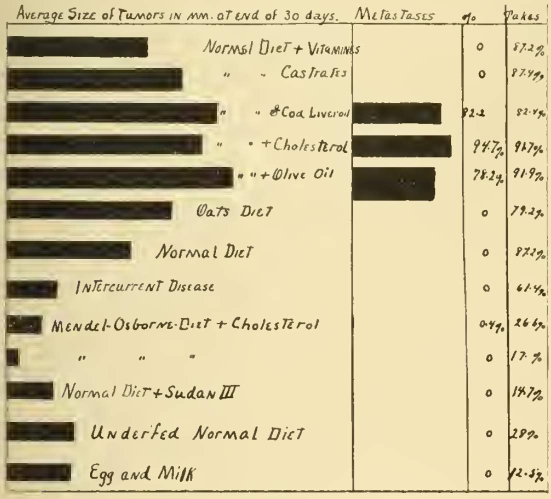

Chart I.

4. To examine the effects of the addition of cholesterol[4] to a satisfactory normal diet and to a deficient diet. This entire work was controlled by normal and sick rats on a normal diet, and normal rats on an insufficient amount of a satisfactory diet.

The results of this work are shown graphically in Chart 1.

One group of diets markedly stimulated the growth energy of the tumors, increased the percentage of takes and decreased the number of retrogressions; while a second group as markedly depressed the takes and growth energy, but was associated with a high percentage of retrogressions, a third group occurred during these investigations which was apparently entirely neutral. These are not included in this report.

Metastases never occurred in our rats inoculated with the tumor strain, when fed on normal diet, but were frequent and more or less extensive in the rats eating normal diet and cholesterol, normal diet and olive oil, normal diet and cod liver oil, and occurred in two instances in rats on gliadin diet and cholesterol. This is shown graphically in Chart 1.

The relation of diet to the growth of transmissible tumors has engaged sporadic attention from investigators since 1909, when Jensen[5] suggested that diets might possibly influence the recurrence and metastases of tumors, Moreschi[6] in some careful observations suggested the relationship between changes in weight in mice and the rate of growth of their tumors. The unfavorable influence of poor nutrition, whether due to starvation, intercurrent disease or other cause, has long been a matter of general observation, and at present most experimenters explain the variations in tumor growth energy under different diets, as due to variations in the general nutrition of the host.

From the results shown in Chart 1 it seemed of value to repeat the above experiment in order to see (1) the effects of these diets on general growth and nutrition of normal rats; (2) the effect of successful inoculation on these different growth curves; (3) the effect of the diets on the absolute tumor weight at a given period.

This work started in every case with rats weighing 75 to 80 gm. and was extended over a period of six months, one-half of the animals being disturbed only for periodical blood counts; the other half being inoculated, one-half at the same time the diet was started, the other half at two weeks after the animals were placed on special diet.

Chart 2 gives the composite growth curves for normal rats on each diet and is based only on the records of rats which at necropsy were apparently healthy. All sick animals are grouped together. This chart shows that the diets which give growth curves equal to or closely approximating the normal curve are the same diets which produced the large tumors of Chart 1 and *vice versa*. The small retrogressing tumors correspond to the diets and other factors which depress the growth curve. This depression may be due to disease, poison as sudan III, malnutrition from (*a*) unsuitable food as milk and egg; (*b*) absence of some essential dietary factor, as lysin in gliadin diet, or (*c*) to an insufficient amount of a suitable food. Any and all of these conditions are followed by poor tumor growth.

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[3] Hunt, Reid: Hygienic Laboratory Bull. 69, 1910.

[4] Robertson, T. B., and Burnett, T. C.: Jour. Exper. Med., XVII, 1913, p. 344.

[5] Jensen: Ztschr. f. Krebsforschung, XX, 1909, . 682.

[6] Moreschi: Ztschr. f. Immunitätsforsch., 1909, p. 561.

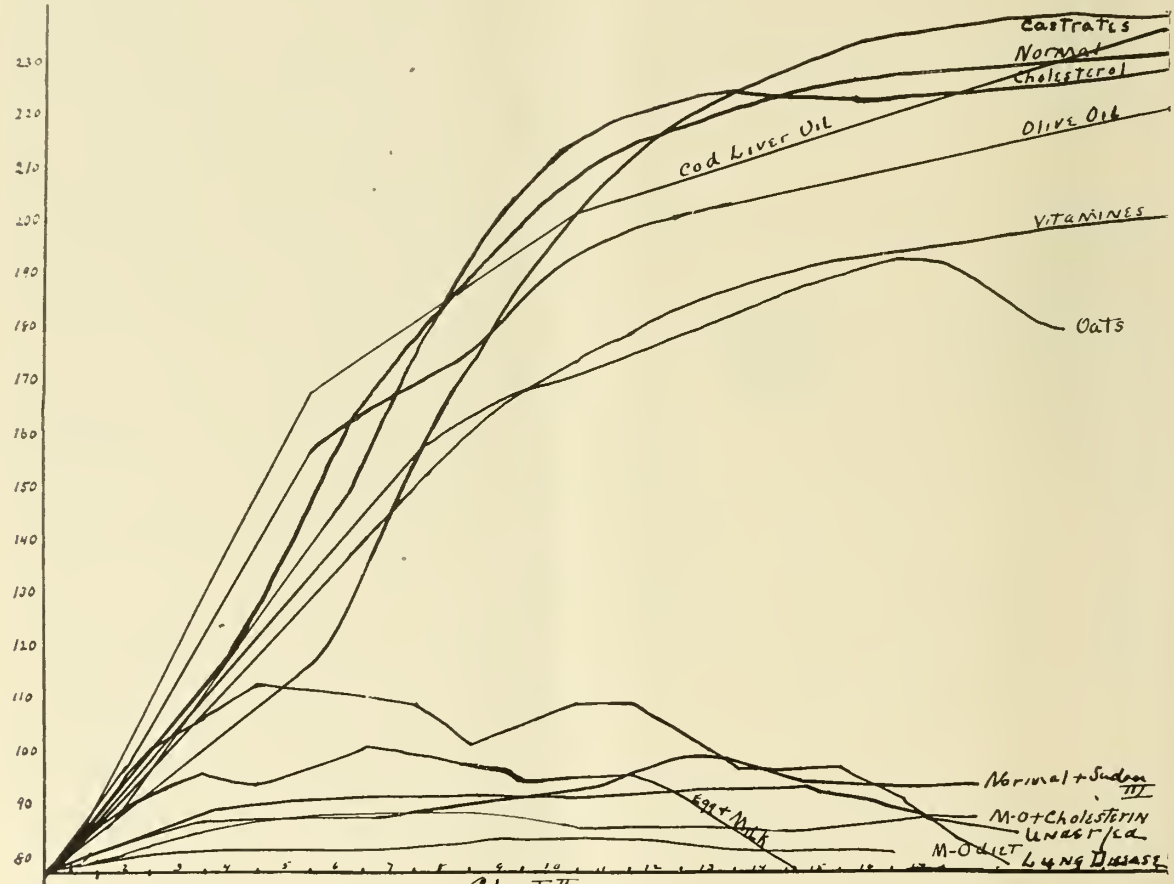

Chart II

The results were enormously accentuated if the rat had been on the poor diet previous to inoculation, the percentage of takes being almost in inverse proportion to the length of time the animal had been subjected to the malnutrition. In those rats successfully inoculated before the general poor nutrition was established the tumors continued to grow if there was a sufficient blood supply established. In every case they grew more slowly than the normal controls, but they grew even in animals that were definitely losing in weight.

At the time of inoculation there was, with every diet, a transitory loss of weight or failure to gain which lasted for several days, and was followed by a tendency to regain the normal curve.

The composite curves of Chart 3 are based entirely on successful inoculations. In every case the curve of the tumor bearing animals was lower than that of the normal intact rat, on the same diet. The curves most closely approaching the normal were the normal diets to which the growth stimulating substance were added, normal diet and olive oil and cod liver oil, cholesterol and autolyzed yeast. The rats on normal diet always showed a marked depression of growth curve after inoculation. The normal rats on oats diet grew comparatively well only for a short time, then began to lose weight. This diet is practically free from cholesterol, contains too little of the fat soluble A or water soluble B substances for continued growth. The rats all sooner or later show rough, coarse fur, yellowish white in color, have enlarged joints, often with hemorrhagic extravastions, conjunctivitis and other signs of malnutrition. Their life is comparatively short. These rats only regain weight on the addition to the diet of the fat soluble A substances. The tumors, however, in these animals were large and ulcerated early. In poor diets the depression of the weight curve was greater but presented the same general character.

Chart 4 shows in graphic form the actual gain in weight of the rats from the day of inoculation to the end of the thirty-day period, compared with the absolute weight of the removed tumor. In the rats on oats the actual tumor mass was heavier than the entire gain in weight of the animal during this period. This is plainly distinct in the comparison of the composite weights, but was most noticeable in individual rats. The tumor growth which occurred in these animals must be at the expense of the animal tissues and apparently continues until all the reserves of the host are exhausted. With normal diet and olive oil, normal diet and codliver oil, the rat starts with a diet satisfactory for complete and continued growth, to which an excess of fat soluble A substances, stimulators of growth, have been added. The tumor growth was excessive and out of proportion to the body gain in weight. It is evident from most of these comparisons that the tumor cell requirements are first satisfied. With addition of autolyzed yeast a slightly different picture occurs. The rats on normal diet with this addition maintained a good general nutrition during the growth of the tumor and without any apparent stimulation of the tumor growth.

Murphy and Morton,[7] in a series of articles, have shown that resistence to tissue and tumor grafts depended on the activity of lymphocytes. In naturally immune, and in mice with induced immunity, they found a marked lymphocytosis arising after inoculation, and that when this was prevented by a previous exposure to roentgen ray the resistant state was abolished. They found that roentgen ray caused a distinct lymphocytosis and rendered 50 per cent. of the animals immune and retarded the growth in the other 50 per cent., but that when roentgen ray

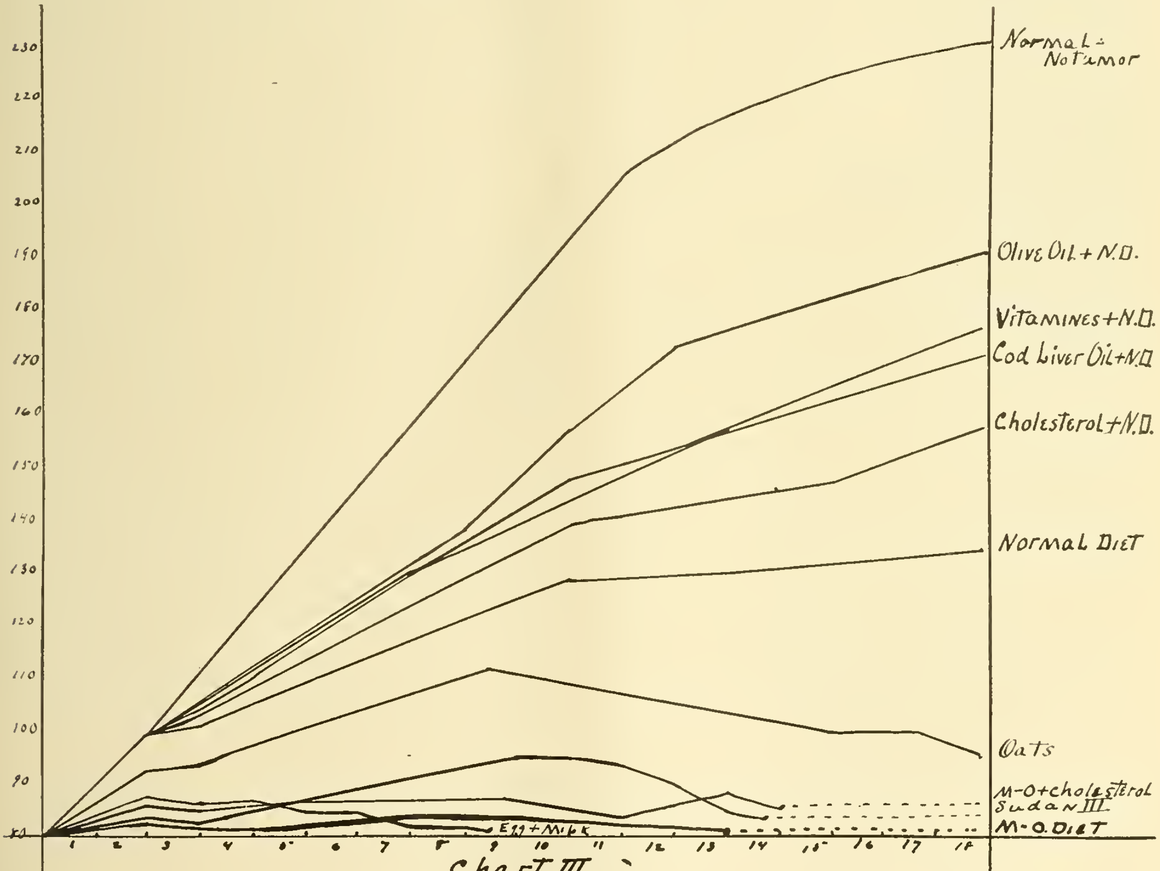

Chart III

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[7] Murphy, J. B., and Morton, J. J.: Jour. Exper. Med., XXII, 1915, p. 204.

was given to the point of decreasing the lymphoid elements, the potentially immune animal was rendered susceptible.[5] Robertson and Burnette[6] studied the effect of cholesterol on cell proliferation and reported an accelerated growth of this same tumor in white rats, an observation which our work corroborated.

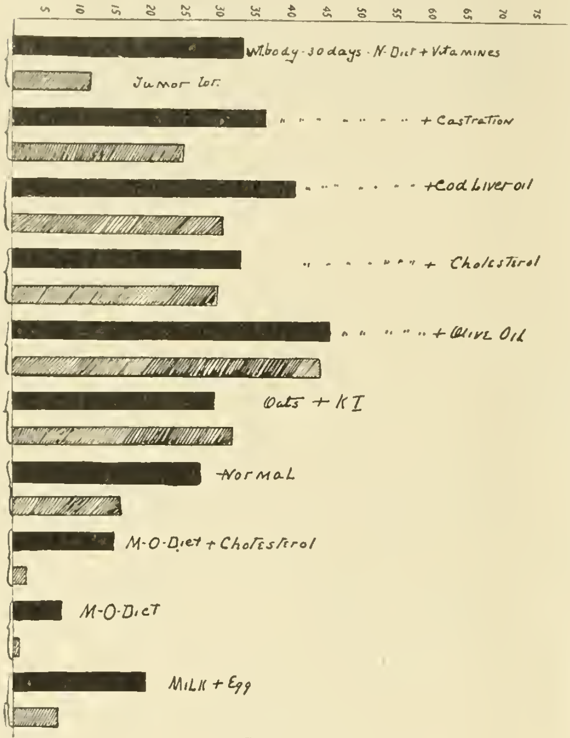

Chart IV.

It seemed of value to examine the blood of a series of rats under the above experimental conditions in order to see if either of these observations could be demonstrated. Numerical blood counts were taken at weekly intervals in one series and monthly intervals in a second series, but when intercurrent conditions were excluded yielded entirely negative results. Differential counts were made at the same time as the numerical, the results of which is shown in Table 1.

TABLE 1.—LYMPHOCYTE COUNT. 400 CELLS COUNTED

	Average	Highest	Lowest
Normal	42.1	60.7	21.6
Normal and yeast	30.3	47.2	26.5
Normal and olive oil	22.4	46.5	14.9
Normal and cod liver oil	27.4	42.7	23.5
Normal and cholesterol	29.3	36.4	14.2
Castrates	38.4	37.0	19.7
Gliadin and cholesterol	44.4	59.5	24.2
Gliadin	51.4	60.8	49.5
Sudan III	50.8	62.1	27.3
Underfed	49.6	64.2	37.8
Oats	41.3	63.1	24.9
Average, 1st group	29.5	41.7	19.7
2nd group	47.5	61.9	32.5

In the first group of diets, including the castrates, the average number of lymphocytes falls below that found in the normal rats, the highest counts being within the normal limits. The second group average throughout slightly higher than the normal animals.

The cholesterol content was determined by Bloor's method, controlled in a few instances by a duplicate determination by Weston's method. Owing to the small size of the animal, an attempt to get an individual cholesterol standard was impossible. The rats were kept on different diets for variable periods and their entire blood removed and tested. The results are based, therefore, on single tests of each rat, and the conclusions based on comparatively large series of rats from each diet.

BLOOD CHOLESTEROL

Bloor Method, Mg. Cholesterol in 6 c.c. Chloroform

	Lowest	Highest	Average
Normal	136	209	178
Normal and castration	164	296	234
Normal and cod liver oil	178	326	302
Normal and cholesterol	184	306	284
Normal and olive oil	172	316	260
Normal and vitamin	130	210	184
Oats	112	202	180
Gliadin and cholesterol	140	194	176
Sudan III	138	202	160
Gliadin	106	146	124
Underfed	186	290	210
Lung Disease	102	142	120
Egg and milk	164	204	186

The first groups including castrates, cod liver oil cholesterol, olive oil and underfed rats, give an average cholesterol blood reading above that found in normal rats. The highest readings are much above and the lowest slightly above the lowest found in the normal rats. Autolyzed yeast and normal diet, oats, egg and milk yielded results practically the same as those found in rats on a normal diet. The remaining diets and infections (lungs) showed a distinct lowering of the cholesterol values.

CONCLUSIONS

1. Diets which provide for the most satisfactory growth of somatic cells are generally most favorable to tumor growth.
2. Those diets which stimulate most markedly the growth of large tumors give normal growth curves in normal rats, show a diminution in the number of lymphocytes in the circulating blood and a cholesterol content of the blood equal to the normal or higher than the normal.
3. Those diets on which the rats produced the most metastases gave the highest cholesterol values.
4. Cholesterol is apparently a factor which favors tumor growth when conditions favorable to its initiation are present.

1920 Rittenhouse Square.

PHYSICAL EXAMINATION IN THE DIAGNOSIS OF EARLY PULMONARY TUBERCULOSIS *

LOUIS HAMMAN, M.D.
BALTIMORE

I am asked to put a value on the physical examination in the diagnosis of early pulmonary tuberculosis. This request is straightforward enough, and the answer should be equally direct, but the harder I try to formulate a precise response, the greater are the difficulties that arise. Before putting a value on a diagnostic method, it is essential to understand clearly just what is to be diagnosed. It is true that I am asked concerning the diagnosis of pulmonary tuberculosis, but just what is meant by pulmonary tuberculosis? A number of far different things may be meant, each with far different diagnostic criteria. A few brief considerations will make the matter clear.

As is well known on satisfactory evidence, most human beings are infected with tuberculosis. This infection occurs for the most part in childhood, and the infection generally involves the lungs. It is true that the pulmonary lesions usually pass unnoticed, giving no clinical evidence of their presence. However, they leave a mark, a very definite mark, of their visit, and lungs thus affected are structurally never the same as they were before the infection. At least one-third of all adults show persisting abnormalities which may be detected by percussion and auscultation, and the roentgen ray, which reveals slight structural changes in the lungs more accurately than physical methods of exploration, shows such abnormalities in a much larger number. When a hundred men come before us for examination, we know at once that at least seventy have pulmonary tuberculosis. Am I asked to state by what signs the infected may be discovered from the uninfected? Certainly nothing could be further from your minds than to seek light on such an academic question. The prevalence of the marks of pulmonary tuberculous infection has an important clinical bearing, but as physicians we are interested in disease, and only indirectly in infection. We know that of the seventy with signs of pulmonary change, only four or five will develop the disease, pulmonary tuberculosis. What we seek to learn are methods by which we may recognize which four of the seventy are destined to this unfortunate issue, or if this aim be beyond our reach, then at least to learn methods to detect the very earliest manifestations of tuberculous disease. Nothing can be more important, therefore, from the clinical standpoint than to distinguish between tuberculous infection and tuberculous disease. I realize, of course, that this distinction is in a way artificial, but for the purposes of practice some such distinction is so important that it is, to my mind, not only permissible, but imperative to make it.

As I have indicated, the aid we ask of physical signs in the diagnosis of early pulmonary tuberculosis will depend on what we wish to diagnose. I can forsee three practical possibilities: (1) We may seek by ultrarefinement in physical methods to detect the slightest lung changes, and thus learn in a rough way the incidence of pulmonary tuberculous lesions. (2) We may seek to discover among a number of applicants for examination those with definite active pulmonary tuberculosis; in other words, those with tuberculous disease. (3) We may seek to discover among those not actively tuberculous, the few who will subsequently develop pulmonary tuberculosis, or at least those peculiarly likely to develop the disease under unfavorable circumstances.

Pulmonary changes, the results of old long-died-out tuberculous infection, have but a secondary interest for physicians. Their only important practical bearing is their prevalence and the difficulty they offer to the diagnosis of pulmonary disease. The changes may be recognized by an altered percussion note, altered breath sounds, and intensified voice sounds. These signs are discovered nearly always at or near the apices because the changes are particularly common in these areas, and because changes situated at the apices are more readily detected than when they are located elsewhere. The frequency with which such abnormal signs are found depends on the skill of the examiner. Those who have developed unusual finesse in percussion and auscultation will find them commonly; those unable to detect any but gross lesions will invariably miss them. As isolated clinical manifestations, they bespeak infection, not disease, and the distinction between infection and disease when such signs are the only objective evidence of pulmonary change, rests on data other than those furnished by percussion and auscultation. They are important in diagnosis because so frequently they are erroneously interpreted to indicate tuberculous disease.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

The recognition of tuberculous disease is the diagnostic problem that chiefly concerns the practitioner. In our daily work as physician, we seek to pick out among the patients who come to us for relief, not the tuberculosis infected but the tuberculous sick, and we seek to pick these out at the very earliest period of their illness. However, the early diagnosis of pulmonary tuberculosis is beset with difficulties. To reach a satisfactory conclusion we draw to our aid every pertinent method of investigation. Percussion and auscultation are only two of the many methods employed, and by no means the most important methods. ·Since changes in percussion and ausculation are found so commonly in the healthy, and since the same physical signs may be the only evidence of pulmonary change in the early stages of active pulmonary tuberculosis, the emphasis we put on the results of the physical examination depends on the patient's symptoms. If a robust, healthy man shows a little dullness and harsh or blowing breathing at an apex, we disregard the findings; if the same patient should come complaining of a recent hemoptysis, we would view the case in an altogether different light. It is therefore impossible to put an absolute value on the physical examination in the diagnosis of pulmonary tuberculosis. It really takes its value from the relations of all the other associated clinical facts. We may make one exception to this general statement and that in favor of râles. When definite moist râles are limited to an apex, this is an almost absolute indication of pulmonary tuberculosis, provided the general evidence points to the presence of the disease. This conclusion may safely be drawn, even though at the time of examination the usual symptoms of tuberculous disease are absent. In putting this very important emphasis on the significance of localized apical râles, I must take the precaution to explain that by râles I mean definite unmistakable fine moist sounds heard at an apex, and that I do not mean the many adventitious sounds that so frequently puzzle the adept and mislead the novice. Unless the presence of moist râles be undisputed, it is not fair to give the finding that diagnostic predominance which, in my opinion, unquestionable râles deserve.

Although great difficulty and uncertainty surround the early diagnosis of pulmonary tuberculosis, this problem is far simpler than to attempt to pick out from the infected the few destined, or at least liable to develop active disease. At the present time no one can escape reference to important war problems, and as far as tuberculosis is concerned, the important problem is not only to exclude from active service the obviously tuberculous, but to exclude as well those who are peculiarly likely to develop the disease under the exposure and hardship incident to camp life. Here we come on most uncertain ground for we have no adequate experience to guide us. We all have certain notions about the type of individual likely to become tuberculous, but in ordinary life our notions on this score are so commonly upset that we hesitate to put more reliance on them when applied on a larger scale. I am to discuss only the bearing that the physical examination has on the question. Had I the choice, I should lay greater emphasis on other methods, but, even if the choice were mine, these other methods are not applicable to the examination of recruits. Our decision on the liability to develop pulmonary tuberculosis rests in the final analysis on a single principle. Perhaps we do not all avow the principle, but unquestionably it guides our choice. This principle is that the liability to develop tuberculosis is directly proportionate to the extent of pulmonary involvement. You are to assume that in a large body of men the definitely tuberculous have been excluded by skillful examiners. The remaining number, all apparently healthy, may be divided into three groups: (1) Those with no, or only very slight, pulmonary changes to percussion and auscultation and to roentgen-ray examination; (2) those with more marked pulmonary changes; (3) those with very definite pulmonary changes. The first group we feel quite sure about; they are the picked men for whom we feel little concern. The third group we are very dubious about; for instance, we hesitate to accept them for active service, and when the signs are particularly marked, we reject them. The second group comprises the questionable men, suitable for service, but about many of them we have grave doubts of the outcome. We certainly act as though we were sure, could the experiment be finished, that only a small number in Group 1, a larger number in Group 2, and a still larger number in Group 3 will develop pulmonary tuberculosis. I do not deprecate the practice based on this assumption; I yield to it myself, but I should like to point out that the inference is purely gratuitous. Indeed I have much misgiving lest the actual results contradict the generally accepted principle.

I say the inference is purely gratuitous because there are no established facts to support it. It is likely to be right; it is just as likely to be wrong. As far as I know, the only observation that can excuse its general adoption is that a person who has had one attack of outspoken pulmonary tuberculosis, from which he has recovered, is more likely to have another attack than is a hitherto healthy person to come down with the disease. Our knowledge of the advance of tuberculous infection under experimental conditions is still very incomplete, and its progress in man is hardly at all understood. Why is it that one infected person develops pulmonary tuberculosis and his infected neighbor escapes all clinical manifestations of disease? We are fond of speaking of degrees of resistance as though this explained the difference. However, resistance explains nothing because we know nothing about resistance to tuberculous disease; it is only a word to conjure with. Can anyone mention a single tangible factor in resistance? Certainly it bears no relation to the state of body nutrition. The things we commonly speak of as influencing resistance have often a purely mechanical relation. The chance location of a tubercle may be the deciding factor in what is called resistance. A combination of unforseen and unforseeable circumstances may determine the extension of a tuberculous focus, which up to that time had been innocuous. For instance, overexertion or pregnancy occurring at a moment when the focus is in a condition favorable to extension, may alight tuberculous disease. The same exertion or pregnancy occurring months earlier, or later, might be passed over without disaster. The extent of pulmonary change, provided the infection causing the change has become inactive, can have but little influence on such accidental association of circumstances. Certainly physical examination, provided râles be absent, can not decide whether a lesion be active or inactive. Roentgenologists claim that in many instances they can distinguish recent active from old inactive lesions, but their claim requires substantiation.

I can think of no problem in tuberculosis of greater practical importance than this question. Current events offer a remarkable opportunity to solve it, which it were a pity to allow to pass unused. If the data are ever available, another cherished opinion may be shattered. Perhaps the principle we now act on, that the liability to develop pulmonary tuberculosis is directly proportionate to the extent of pulmonary involvement, may be abandoned.

714 Park Avenue.

DISCUSSION

Dr. Elmer H. Funk, Philadelphia: I am sure that we are all indebted to Dr. Hamman for a clear and concise presentation of this interesting subject. We have learned a great deal from a man whose work in the field of tuberculosis has always been of the highest order.

It would be a sad mistake to allow the impression to be created that the physical examination in the diagnosis of pulmonary tuberculosis is of little value, and I do not wish my remarks to be misconstrued. The physical examination is of little value when used exclusive of a consideration of the history, the symptoms and certain laboratory studies. It is of utmost value when combined with these other factors of diagnosis. In teaching men to strip their patients to the waist and to perform inspection, palpation, percussion and auscultation with system and care, the tendency is to create for the physical signs an absolute value in tuberculosis which in reality does not exist. An evaluation of the signs can be made only in the light of the history, symptoms and laboratory findings.

The physical examination reveals the extent of the involvement of the lung; the symptoms reveal what is more important, namely, the acuteness of activity of the pulmonary lesion. I could illustrate this very well if I could take you to the White Haven Sanatorium and show you a number of employees who were patients a varying number of years ago and who at present are actively engaged in work day after day, yet who present on physical examination signs of extensive involvement of the lungs. They are free from symptoms, however, and perform easily their daily tasks. The signs in these patients are relatively unimportant as compared to a number of patients who, with relatively few physical signs, present marked symptoms, local and constitutional, with tubercle bacilli in the sputum. The few physical signs, however, in these patients are of infinitely greater significance when interpreted with the associated symptoms.

Because of the importance of recognizing pulmonary tuberculosis early in the course of its development, emphasis has been laid on the signs of beginning disease. Let me say that the diagnosis of early pulmonary tuberculosis will be fraught with difficulties if reliance is placed only on the physical examination. The beginnings of the disease are so small that when its presence is unquestionably identified by signs it is usually beyond the early stage. The physical signs of incipiency are uncertain. Various men have laid stress on one or another sign or group of signs. We have come to believe that lagging expansion at one apex, suppressed breathing or roughened breathing with slight prolongation of expiration, a few fine râles elicited after coughing are about the only tangible signs of early disease. I want to emphasize the value of coughing at the end of expiration followed by slightly deeper than normal inspiration. By this method a few fine râles may be obtained, which if persistent and located at one or the other apex, are highly suggestive of pulmonary tuberculosis. They may be associated with an acute nontuberculous infection, such as influenza, but the history and symptoms and their duration will aid in the diagnosis. In early inactive pulmonary tuberculosis cases râles are usually absent, although recently I have seen a case in which they have been present for years in a man who has always been athletic and well and in whom no question as to their importance was raised until a routine examination for the Army. I do not gainsay that such a man should be watched, but it would be unnecessary to send him away to a sanatorium.

I believe that the stethoscope must be depended on largely in the diagnosis of early tuberculosis. Dr. Hamman refers to percussion. He is most skilled in percussion. My own experience has been that percussion is the most difficult of all physical methods in which to acquire skill. It is the hardest method to teach medical students. Few doctors practice it correctly or are able to interpret it correctly. And I believe it might be safely stated that when the ordinary physician obtains percussion changes the disease is usually beyond the incipient stage.

In the effort to determine the presence or absence of pulmonary tuberculosis we must have a clear conception of the pathology of the disease. It invariably starts at the apices and progresses downward. Abnormal physical signs at an apex which persist for any length of time are strongly in favor of tuberculosis. Abnormal physical signs at the base with normal physical signs at the apex are overwhelmingly in favor of some nontuberculous disease. I have never seen clinically or at necropsy a primary basal tuberculosis.

Recently there has been a tendency to emphasize the greater value of the roentgen ray in comparison with the physical signs. Here again we have to rely largely on the interpretation which symptoms give to the various shadows seen on the plate. The roentgen findings are not absolute or conclusive. There are apparently healthy men who roentgenologically have extensive disease, and conversely roentgen-ray reports have been made which were negative in patients with definite symptoms and signs and bacilli in the sputum. The roentgen ray is of great value, but it is not the infallible factor in diagnosis which some over-enthusiastic workers would have us believe.

The roentgen ray is limited in its application by the geographic distribution of patients, but skilled eyes, ears and touch make a carefully performed physical examination always available in the humblest home and the most distant hamlet. But whether we use the physical signs or the roentgen ray, or both, we must never fail to remember that they form only one part of the diagnosis, which to be complete, must include a consideration of the history, symptoms and the laboratory findings.

Dr. Charles H. Miner, Wilkes-Barre: As Dr. Hamman has pointed out, the most important question to answer at the present time is the relation that exists between the extent of the pulmonary changes not due to active disease and the probability of developing active disease under conditions of unusual hardships and exposure.

This is important today because most of us must answer this question very often in our examination of registrants for selective service boards.

Colonel Bushnell has stated that soldiers who enter the service in good health run very little risk of acquiring tuberculosis from association with their fellows, but there is a darker side to the picture which we must not overlook; namely, the relation of measles to tuberculosis. Many men have died of pneumonia following measles, and nearly 3 per cent. of 5,945 measles patients carefully examined have developed tuberculosis. But, considering the strain of active service abroad combined with the frequent bronchial affections, there will surely be a resulting lighting up of tuberculosis in a certain percentage, just as in the case of the men who developed measles.

We must all agree that we must reject every man who has definite active tuberculosis as demonstrated by the presence of definite moist râles limited to an apex, but how are we to decide which man has sufficient pulmonary changes without moist râles to require rejection?

The rules laid down for physical examination in Form 75 issued by the Provost Marshall General have been of great value to examiners and the résumé of indications from roentgen-ray negatives has given us a definite standard that has been a distinct advance in the use of this method of diagnosis. The only weak point is the difference in interpretation of the men who have the responsibility of reading the roentgen-ray negatives, especially when they have to decide if a given negative is to be classed as 5, 6a, or 6b (6a being not a cause for rejection; 5 to be determined by physical examination, and 6b a cause for rejection).

In one medical advisory board they sent, for a period of six weeks, every man who was under weight to the roentgen-ray laboratory, and these men were almost invariably classified as 6b, and were added to the list of those rejected as tuberculous. This was a most interesting experiment and demonstrated how frequently fibroid tuberculosis is the cause of underweight. These men would have been rejected from active military service on account of their weight, even if the fibroid tuberculosis had not been discovered. But just how many would have developed acute tuberculosis in active service is another question. However, the roentgen-ray examination is now only available in a few cases and we have to fall back on the physical examination.

Besides percussion and ascultation we must make use of inspection, which, when properly done, probably yields more valuable information than any other procedure, except auscultation. The temperature and the pulse often give us valuable information and percussion will have to be made use of to determine the extent of fibroid changes.

Only last week I saw an officer with advanced, acute pulmonary tuberculosis, who had been passed by the special tuberculosis examiners at Camp Lee, and only a few weeks ago had been certified for duty overseas. Shortly after this last examination he had caught cold but stayed on duty until he became so ill that he was transferred to the hospital, and later released on a furlough. Six years previous to his volunteering he had spent one year at Saranac Lake as a patient. He was undoubtedly judged to be a cure with sufficient resistance to withstand the strain of active service.

Tests do not yet exist to show us how well healed the tuberculous tissue has become, and we can only fall back on the principle that liability to develop pulmonary tuberculosis is directly proportionate to the extent of pulmonary involvement.

But in all discussion regarding tuberculosis and the soldier I agree with Dr. McCrae, who says, "Due regard must be had to the class in which he is placed." There are many occupations in his country and behind the lines with less exposure and in which the risks to a tuberculous individual are much less than in the trenches. But regarding full military duty, for the sake of the Army, military and medical efficiency and the man himself, previous tuberculosis and also any reasonable suspicion of an early lesion should be regarded as a cause for rejection.

DR. ALEXANDER ARMSTRONG, White Haven: The paper is of special interest to me in its bearing on the difference between active and nonactive tuberculosis. I have lived at White Haven for ten years and have become acquainted with many tuberculous people. In the last six months many men who had been under my care within the last ten years, feeling that they did not want to be slackers, wrote to me for advice. I advised them to claim exemption. I did this, (1) because I felt it an injustice to the government to have them go into active military service; (2) because I knew it would be an injustice to the patient, the probability being that his lesion would be reopened. They invariably did not take my advice, and most of them have been inducted into the service.

Another reason that I am speaking is that there are present men who are doing the work of the draft boards. While it is not for me to criticize their work unless it is done in a constructive manner, there has been a certain amount of laxity in some draft board work. If all were as careful in the work as was outlined by Dr. Miner there would be no necessity for criticism. I can illustrate my point better by giving the record of a case. I have a letter on my desk from a patient in Camp Upton in the tuberculosis ward. I have similar letters from six others. This man had been sent to White Haven by one of the large insurance companies. He was called in the first draft. I gave him a certificate saying that he was under treatment at White Haven for pulmonary tuberculosis. He had a large suppurating cavity in his right upper lobe and was a blood spitter. He looked well, had a red face, and was up to his normal weight. His sputum contained eight bacilli to the field. In his examination before the draft board they said his lesion had healed and that he was in excellent shape, and he was passed into the first class. He asked for limited service and was at first told this would be granted. He was later taken into active training and did all the work pertaining to it. Inside of two months he was a wreck. He applied for relief, saying that he could not stand the training. After the sixth doctor in the military camp had examined him he finally found one who discovered his lesion and declared he was unable to continue. He writes me now asking if I can use my influence to get him out of the service. I am told that this is by no means a unique case, that such is happening all over the country. This man is liable to a government indemnity, possibly a pension. The government feels that this man has had his lesion reopened in the service, but this is not true; it has been open for the last three years. The man will probably be sent to a sanatorium and should he recover will be given limited service. If not, he is liable to be pensioned. I feel that we should ask the government to make the requirements of the examining board more explicit and insist that they ask for a history of the patient. Any patient who has been under treatment at a recognized sanatorium for tuberculosis within three years should not be inducted into the service.

DR. ALBERT E. ROUSSEL, Philadelphia: I have been very much interested in hearing the paper and the discussion thus far, but perhaps it may cause some misunderstanding on the part of the general practitioners. Making due allowance for so-called physiologic variances at the apex, more especially the right, it is my firm conviction that if there are changes in quality and pitch and rhythm, even admitting the possibility that this is a previous infection, this fact constitutes a danger point, and that, if there have been sufficient symptoms to cause the patient to consult you, the patient had best be very carefully kept under observation. As a teacher of rather long experience, I do not want the reaction to be that which it used to be, that men would say that this case is not one of pulmonary tuberculosis because as yet no tubercle bacilli had been found in the sputum. By this time the patient's chances for recovery had been diminished about 33 per cent. I am afraid that if we minimize the importance of the physical symptoms as indicating the past, and most likely the present, we shall take a step decidedly backward. If we have to wait until we have symptoms, we have certainly lost a very considerable amount of time which had much better be devoted to the usual form of treatment.

Temperature and pulse frequence are of prime importance. In speaking of temperature, I mean the early temperature with the first signs of crackling râles, temperature of not much over 100 and which sometimes requires the thermometer to remain for from five to ten minutes beneath the tongue, or perhaps in the rectum. I have examined about 1,200 French subjects for the French army during the four years' war, and notwithstanding the relative scarcity of men in France, their written directions, books of rules and regulations concerning the examination of tubercular patients are very much more strict, and to my mind, very much better than instructions I get as a member of the Medical Advisory Board. I do not hesitate to say that if we have to wait for râles in every case presenting itself you imperil that man's life. As a member of the medical board of one of our institutions for tuberculosis I examined one man recently who was afterward discharged as an arrested case. The man had gained in weight and was accepted by the draft board. I wrote a letter to the advisory board telling of the man's condition. What chances are there that that man will be able to stand the rigors of the service? It has been our experience that the greater the extent of the lesion in our sanatorium cases, the greater is the probability of its return. This, I think, merits very considerable attention.

DR. THOMAS MCCRAE, Philadelphia: Dr. Miner has been kind enough to quote an expression of mine in regard to tuberculosis and the soldier. I think the view expressed by some, that the man in the army is not much exposed to infection, is of doubtful accuracy. He will undoubtedly be exposed to infection by tubercle bacilli, and we know the effect of another infection on a latent or arrested tuberculosis. Almost every man in the front line trenches suffers from more or less bronchial infection.

In regard to pensions, it seems reasonable that if the Army accepts a man and later he is found to have tuberculosis, it is the government's business to look after him and give him a pension. If the government takes him, the government should look after him. In our daily work the early recognition of tuberculosis is a different problem. Most of us would feel that the points which Dr. Hamman dwelt on are most useful ones. I would put as the first consideration the fact that suspicion is aroused. That being done, we should feel that our business is to exclude the possibility rather than to take the view that it is nothing but bronchitis, for example.

Dr. John A. Lichty, Pittsburgh: I would ask Dr. Hamman to specify in the closing of this discussion whether he means, by pulmonary tuberculosis, a specific infection or a mixed infection. I believe that will lift this question out of the academic side as Dr. Hamman said he would like to have it. It makes quite a difference whether it is a definite specific infection or a mixed infection of which he is speaking.

Dr. Hamman, closing: I cannot imagine any subject more difficult to talk about than physical diagnosis, because it is what you see, feel and hear that counts, and not what you say about it. One who is very experienced may hear râles where I cannot, make out dulness where I cannot. To that man râles and dulness are entirely different things from what they are to me. If one speaks of "slight pulmonary signs" to a group of physicians unusually experienced in pulmonary examinations it means to them a far different thing than what the same phrase means to the general practitioner. Discussion of these things is bound to lead to misunderstandings. Of course, I had no intention to disparage the importance of the physical examination in pulmonary diagnosis. The value of early diagnosis is obviously important, but we must bear in mind the danger of going to the other extreme and making the diagnosis too lightly. The latter error is followed by just as serious social evils as is the error to miss the diagnosis where it should be made. Replying to Dr. Lichty, I mean specific infection, not secondary infections. The secondary infections are of importance later, perhaps, but I make no reference to them. In speaking of pulmonary tuberculosis I mean a specific infection with the tubercle bacillus.

APPLICATION OF THE PRINCIPLE OF ADVANCED PSYCHIATRY *

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The progress of psychiatry in the past few years deals with the prevention of insanity and the adjustment of social and economic conditions, more than with bedside treatment. The virtues of its teaching, therefore, may be determined by its practical application to field work, where knowledge gained in custodial institutions if combined with community forces will provide real community service, and barriers which have stood between the mentally afflicted and their early care and treatment may be effaced. In other words, the principle of advanced psychiatry are really presented in the function of mental hygiene.

Dr. Copp, in his community organization for mental hygiene, states, "Mental hygiene thus assumes a broad meaning; inclusive of all the duties and activities arising out of conservation of mental health; prevention of mental diseases and mental defect, investigation of their nature, cause, consequence and measure of treatment; interpretation and diffusion of such knowledge to the public and the medical profession; promotion of early recognition and treatment of such afflicted by the family physician who has had during his mental course sufficient instructions and clinical experience in psychiatry, community organization facilitating their care at home under suitable safeguard against present danger and future menace of reproduction of defectives—provisions for the care of the insane feebleminded and epileptics in institutions and in the family so far as is possible under supervision."

Those of us who have governed the medical administration of large institutions, watching the tide of new and old cases ebb and flow, realize that the solution to our lack of courses, depends on lack of corrective forces. Mental hygiene it would seem takes us into this sector of the firing line and supplies our deficiencies. A specific remedy with many virtues for healing cannot be classed as Utopian dreams or fleeting fancies of a theorist until it has been tried and found wanting. The principles of mental hygiene, therefore, are worthy of an attempt of practical application. The functions of mental hygiene are far reaching and broad in their ramification and yet sufficiently concrete as to warrant a practical application. They may be applied to local rural districts, municipalities or states.

In this brief presentation an effort will be made to apply practically these principles to large communities of over 500,000 population. Permit me to add that no adverse criticism is to be inferred as to the intramural care of the insane offered by municipalities. When we are confronted with the annual admission rate, the annual increase of custodial cases, we feel that every effort should be made to reduce this number. It would seem that custodial institutions have reached the highest point of their efficiency in the intramural treatment of the insane. It is represented by 25 per cent. complete restoration (based on new admission), and 40 per cent. total discharges (based on admission). There still remains 60 per cent. of the patients for whom there seems to be no immediate care; this 60 per cent. is composed of those afflicted with psychoses which to a great extent may be controlled by public cooperation, legislation, education and preventive medicines. These are suffering from paralysis, chronic alcoholism, manic depressive insanity, dementia praecox, paranoia and feeblemindedness. To house this 60 per cent. the city of Philadelphia today is erecting buildings at an expense of $3,000,000. These, when completed, will provide for her census at that time; each year a new unit accommodating 200 patients must be erected in order to provide for the care of the yearly increase of her insane, unless a more strenuous and a more radical method of prevention is enforced.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

Municipalities with a population of over 500,000 may be cited as fields showing opportunities for this work. Work to a less degree may be also found in smaller communities. Only a few large municipalities have psychopathic hospitals; the admissions to these are usually from the street, court commitments, police commitments, requests from charitable institutions and transfers from general hospitals. Very few cities provide mental clinics. Many fail to provide sufficient funds for the deportation of nonresidents. There are very few mental cases treated in general hospitals. The municipalities themselves have few if any outdoor departments for mental cases associated with their charitable hospitals. They have no after-care service; there are only a few preventoriums for borderline indigent cases (St. Francis Country House at Lansdowne is doing excellent work in this direction). Few hospitals provide bedside training for psychiatry for interns and the state board makes no demand for special training for interns, in this particular line of work. Few cities, if any, have instituted practical psychiatric field work. (The after-care service of the Philadelphia Hospital for the Insane is doing excellent work along this line.) We can readily appreciate the great strain thrown on the psychopathic wards or hospitals for the insane with their unusual assortment of frank lunatics and borderline cases for observation and treatment. One feels for those who pass the ordeal of assortment and return to their old surroundings without supervision. We can readily see the lack of cooperation with outside forces for a common good; we see the virtues gained by hospital treatment lost through lack of community organization. These are the indications for the application of the principle of advanced psychiatry as applied to cities of a population of over 500,000.

The organization of community forces could best be accomplished by means of a municipal bureau of mental hygiene, subordinate to the Department of Public Health and Charities, with duties purely extramural and properly coordinated with her local institutions. Such a bureau under the supervision of a trained psychiatrist with subordinate district supervision, to which districts are designated definite psychiatric centers, under the direction of an alienist assisted by a trained field worker, would secure a better cooperation with outside organizations. At these centers public education could be encouraged, early care and treatment with definite assignment to proper institutions, custodial psychopathic, preventoriums, or general hospitals, could be made. The alienist in charge of the psychiatric center would bear the same relation to the custodial institution, as the medical inspector of the Bureau of Health bears to the Hospital for the Contagious Diseases; in other words, the assignment could be made in the field and, as the patients are restored and paroled or discharged from the custodial institutions, they could be returned to the supervision of their respective centers of the districts in which they reside.

The personnel of such a bureau should be composed of the best men and women available. The chief officer should be a sane, conservative, progressive psychiatrist with experience in intramural and extramural psychiatry. He should not be obsessed with Utopian dreams or fettered with ancient dogma, that the sin of the world is due to heredity or inherited morphologic structures. He should be a practical man and not a theorist. The alienist assigned to each center should likewise be a practical man of broad experience and intensive training. The field workers are highly important. They should be graduate nurses with general hospital and psychiatric training, women who possess a keen insight of human nature, women who could discriminate between an intentional jab from Patty's left to Bridget's eye and obsessive impulses; that Bridget's one night out did not necessarily constitute so-called constitutional inferiority, and that a positive Wassermann does not necessarily mean a woman's loss of virtue or that an unfortunate bishop is necessarily a hypocrite. The immediate results of such a bureau will be a rounding up of mental defects and a temporary increase of custodial patients. These may be counterbalanced, however, by an increased recovery rate, and a more free parole system under after-care supervision.

Its effect on the purely indigent insane, permanently maimed and without friends or relatives, is speculative. Early diagnosis and appropriate treatment which is so essential to a more rapid recovery of the insane patient would be assured. It would offer a safeguard to the interest of patients, their relatives, the public and posterity. Its influence on posterity would necessarily check the propagation of the mentally unfit and eventually eliminate the cost of care of these unfortunates to municipality and state. Surely if a municipal bureau of mental hygiene can bring about coordination of forces to accomplish these results, it would render the greatest humane service and yield a financial and economic saving.

Philadelphia Hospital for the Insane.

DISCUSSION

Dr. John A. Lichty, Pittsburgh: I am in hearty accord with Dr. Jackson's method of organization. I have been watching his work at the Philadelphia Hospital with great interest and have been trying to keep in as close touch with it as possible. Work of this kind means economy and efficiency. It includes study not only of the patient but of the family from which he comes. Other points to be considered are whether to send the patient back to his own home or to a family designated by the institution; the contact with other individuals, infectious disease, or influences. In a problem of this kind, that is providing for the care of the insane, in which we are continually adding to our bed-space, we are always looking for a method of getting out of the difficulty, and I see no better method than that of prevention such as Dr. Jackson has suggested.

One case illustrating concretely the saving to the state is that of a boy seen in a hospital for the criminal insane. He was committed at the age of 18, and the cost of his maintenance was $5 a week. He had been wayward and doless, would not stay at home, and his parents had abandoned him. He landed in one of our institutions for correction and there possibly was not studied as closely as he should have been. Here a man inquired for a young boy to work on his farm; this particular boy was recommended and the reports on his conduct sent in every few weeks or months were good. One day when the farmer returned to his home after an absence of twelve hours or more he found that his wife had been murdered, and it was discovered that the boy had committed the deed. He was sent to jail and later sentenced to be excuted. Some of the higher authorities became interested in him; on investigation it was found that he was insane and he was sent to the hospital for the criminal insane. This boy should have been known in his family by the state and sent to an institution in which his mental condition would have been recognized. When he came to the courts there would have been information by which it would have been easy to assign him to the proper place.

By the creation of such an organization as Dr. Jackson has suggested there would be a saving of thousands of dollars to our commonwealth, the saving of lives and the bringing back to health many people now submerged. I hope this paper will be fully discussed and that steps may be taken to put such an organization into effect in our state and municipal hospitals from which such effort should emanate.

Dr. S. Solis-Cohen, Philadelphia: I thank Dr. Jackson for this very clear and simple presentation. I wish some one would do the same work in regard to pulmonary tuberculosis. As to both of these conditions, our present communal handling of the subject reminds me very much of what is said of Napoleon at the battle of Austerlitz: Seeing the Russian troops about to cross the frozen lake, he waited till they were in the middle and then ordered his artillery to break up the ice. When the Russians were precipitated into the water Napoleon sent out boats and rafts to pick up the survivors. Suppose that after the French boats and rafts had saved a few hundred out of the many thousands, Napoleon had ordered that these be thrown into the water again! We should shudder to recall such inhumanity. Yet is not that precisely what we do with our insane and tuberculous patients? By our defective economic organization we produce tuberculosis and insanity. Having thus afflicted many persons, we save a few of the sufferers, in a half-hearted fashion, by our custodial and other institutions, then throw them back into water again. The paper we have just heard points out a simple and apparently effective method of relief, so far as the insane are concerned. Something similar could be worked out for the tuberculous. This society is indebted to Dr. Jackson for having made it the medium of presenting his views to the public, and I trust that we shall take some part in the work of propaganda and organization other than by mere words.

Dr. Frank Woodbury, Philadelphia: Personally I am entirely in sympathy with the contents of Dr. Jackson's paper. It is very timely, and the subject is one of the most important, probably, that we can consider at this time. Dr. Cohen's reference to the analogy of insanity to tuberculosis brings clearly forward the duty of psychiatrists toward the general profession and the community at large. In regard to tuberculosis, however, there is an important distinction to be made from insanity: the general profession is fully informed as to the cause of the disease, and also as to the various contributing causes and has a very definite knowledge of its nature, and in consequence great progress has been made in prevention and cure. Comparing this with the attitude of the public and the medical profession toward mental disease, we begin to see the great task before us. The psychiatrist knows that insanity is not the name of a disease, and it is not even a satisfactory diagnosis. When we say a man is insane, we have still to ascertain why he is insane and what is the nature of the disease which produced the mental disorder. When we hear among the profession, or the public, discussion of the percentage of cures in insanity, especially when somebody boasts of having found a cure, we know very well that they have very little knowledge of mental diseases. Let me illustrate this point: For example, the Philadelphia Hospital has a department for medical cases, a department for surgical cases where various traumatic conditions are treated, and it has also a department for mental diseases. When a patient is admitted to the medical department no one accepts a diagnosis that the case is a medical one until every effort has been made to determine the cause of the condition. The same is true in the surgical department. The man may be suffering with a broken leg; he may have cancer or other ailment requiring surgical treatment. No one thinks of accepting the diagnosis that it is a surgical case without examination. When, however, a patient is committed to the department for the insane the general public and the majority of the profession are satisfied with the diagnosis of insanity; that is, that the patient is mentally sick. Therefore, the first duty, it seems to me, is to educate the general profession and the public up to a better knowledge of the various forms of mental disorder. Moreover, it is not every insane patient that requires institutional treatment. Some cases are better off at home or in a sanatorium. It is wrong to disqualify a man for life and to declare him an antisocial member of the community by committing him to an insane hospital unless it is really necessary for his welfare and the protection of society.

The great task now before psychiatry, therefore, is to diffuse a better knowledge of mental disease among the general profession. This subject does not occupy as high a place as it should in the curriculum of medical schools and in the course of reading of medical students and recent medical graduates. Mental disease, as a general thing, seems to be not very attractive to them, or it may be that their time is taken up with other departments of science. I would suggest that, as opportunity offers, these matters shall be discussed at clinics and medical meetings. The county medical society might meet at the State Hospital for the Insane; also the doctors connected with the hospitals should make a point of attending the state and county society meetings so as to discuss cases of mental disease more generally. By such methods, we may induce the general practitioner to take more personal interest in the different forms of mental diseases.

Another very promising field for psychiatry is that of mental hygiene. *Obsta principiis* is an old medical maxim. We should strike at the beginning of disease and endeavor to prevent it. A great work could be done among little children in preventing dementia praecox. We should carefully protect their brains at the most plastic age so that they may not be subjected to unnecessary strain or shock. For example, in the moving picture shows you will occasionally see women bringing very young children. From the screen, they may receive mental shocks which are entirely unsuited to their age, and which may lead to the foundation of future psychoses. The system of education of children needs to be revised from a psychiatric standpoint. The present system of competition by which the quicker witted children are stimulated to the fullest extent of their powers, which is often beyond hygienic standards, should be held in check. The examination system has been strongly criticized from this point of view. At the time of examinations some of the older children have been driven to the stage of confusional insanity. This is especially true in our high schools and colleges. In a child of unstable mental make-up, a condition may be produced which will impair his future usefulness in society if it does not develop mental disease at the time. I remember a case seen at Dr. Barr's hospital a number of years ago, which made a great impression on me. It was that of a young man, who had been the best Greek scholar in his class at college, and the only son of a Presbyterian minister. The day I was visiting the hospital the father and mother were there and were very sad. The history which they told me was that their son had broken down during preparation for examination in his final year. He had been obliged to stay in a darkened room for several months. Because of severe pain in his head it was thought possibly trephining would give relief. The operation was performed; but it was followed by complete loss of the power of speech. After remaining in the hospital for a long time, he had finally regained partial power of speech; unfortunately, however, his memory of speech images was limited to profane and obscene words. The case was one of the saddest I have ever known of. Without discussing these interesting questions further, I will close by saying that the Committee on Lunacy and the Board of Public Charities are, in my opinion, in entire sympathy with Dr. Jackson in the scheme which he has presented in his address.

Dr. Edward E. Mayer, Pittsburgh: Like those who preceded me, I wish to extend congratulations to Dr. Jackson for a most practical presentation of an important subject. Physicians are too individualistic, looking largely at disease only in connection with the person under treatment. The community phase of disease is apt to be ignored by them. Unless physicians get away from this standpoint, social and vocational workers will more and more take up spheres of activity which should belong to members of the medical profession. We must deal with the social problems of the families of our patients and of the community. We must strive for organization which gets at the fundamentals of our relationship with the state on one hand and the family on the other.

Dr. Jackson properly emphasized the importance of a hygienic department in connection with asylum organization. Social hygiene is too largely ignored by most of us. Mental hygiene is merely one phase of it. Properly trained clinical sociologists should be encouraged rather than the perfunctorily trained social worker with whom we are content to go along. The importance of vocational workers has loomed up through army necessities. The after-care of the disabled, like the social perspective of a patient furnished us by the social worker, is desirable in civil life also. As physicians, we should find some way to organize these departments under medical supervision. Our state committees should attempt some method to bring these agencies together. At least, the Committee on Lunacy, let us hope, will see fit to plan along the practical outlines of Dr. Jackson as far as our state asylums are concerned.

Prof. Norbert J. Melville, Philadelphia: Dr. Jackson has suggested a method of community coöperation and service that is a feasible plan, not only for municipal hospitals but also for state hospitals and state organizations. Dr. Woodbury added another type of organization, in which I am very much interested, to be included in this plan; that is, our school systems. Other speakers have emphasized the importance of social service work and of effecting coöperation between the medical profession and those agencies which will insure follow-up work among the patients of physicians.

The Mental Hygiene Committee of the Public Charities Association is prepared to cooperate with physicians in any community who are ready to direct that type of cooperation. Here in Philadelphia and in different communities of the state we have already begun to work through welfare agencies to convince social workers that they ought to go to the specialist for direction in social psychiatry and that the social agencies ought to send some of their staff for a time to take a course in the principles of social psychiatry. Such a course was given at Northampton last summer.

Meanwhile it seems practicable to start a plan of cooperation between the best social workers in each community and the physicians and psychiatrists interested in this work, so that the social workers may thoroughly investigate cases under the guidance of the psychiatrist, take the case to such other specialists as the individual condition may warrant, and see that the recommendations of the psychiatrist for the after-care are followed out. It is the thought of the committee that if a certain number of efficient carefully selected volunteer workers could be organized in many communities, eventually the state, through suitable legislation and appropriations, might take over the work.

There is a large field for more intensive cooperation of teachers, school medical inspectors, and social workers in bringing to the psychiatrist cases of early breakdown while they can be remedied. It seems to be the general conviction of those who have studied the subject that the state hospitals should have, convenient to every community, outpatient clinics with social service departments in close touch with local physicians, hospitals, and other welfare agencies. With our committee we stand ready to be called on to go into a community to endeavor to stimulate the interest of all social workers to the point of going to the physician for direction in cases needing medical and psychiatric care.

Dr. Theodore Diller, Pittsburgh: The founder of Christianity said that we have the poor always with us. We know also that we have always the insane with us. The problem presented is never ending. The subject has been before this society many times and it seems proper that it should be brought before it in some phase every year. I find myself very generally in accord with what has been said by the previous speakers. Dr. Jackson's plan seems to be an excellent one. Dr. Mayer's plea for the need of team work in community effort needs emphasis. It is rather an odd thing when we look at man in his complex nature that we should see in the medical profession hygiene discussed apart from the mental phase. Those of us engaged in psychiatry, labor under great discouragement, and can do very little alone. We need the active interest of physicians who are not psychiatrists, that this subject may be regarded as belonging to the entire medical profession. It is very good to have men like Drs. Lichty and Cohen speaking of this matter. We need men of this type in the work and we want men that are leaders in their communities who are not physicians. We must enlist the sympathy of men who are leaders in various communities.

There is nothing that appeals to the practical man so much as the question, "What are you going to do?" "What is practicable?" Experience counts greatly. It ought to be made generally known to the medical profession and to the public what has been done; what has been done by the New York State Committee on National Hygiene, and by the Public Charities Association of Pennsylvania, which is an offshoot of the former organization. I make a plea for the cooperation of members of the medical profession who are not psychiatrists. The matter concerns the whole medical profession and the entire public. The facts are appalling. The increase in insanity ought to be known and every effort made to bring about cooperation in our work so greatly needed. There is a journal published in New York, called *The Journal of Mental Hygiene*, $2 per year, which I wish members of this section would read. I am not a collaborator of the *Journal*, am not connected with it, and I am therefore free to recommend it to you. I wish that the plan suggested by Dr. Jackson might be taken up officially and be made operative. We ought to bring about the teaching of mental hygiene in our public schools. It is very badly needed. I have, myself, delivered addresses before teachers and public audiences. One of my subjects has been the matter of normal recreation. The problem is a serious one that concerns us all and calls for united sympathy and cooperation.

NERVOUS AND MENTAL SEQUELAE OF INFECTIOUS DISEASES *

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One of the chief functions of the nervous system is to regulate the functional and nutritional activities of the organism either by directly influencing the cells or indirectly by means of circulatory changes. But in order to be able to exert its influences the nervous system requires stimulation. Only then is it capable of displaying its various reflex activities. The latter are but reactions which are being produced not only at the level of the stimulated area, but also at a distance.

The causative factors of nervous reactions are (1) mechanical (mostly exogenous); (2) physical; (3) chemical; (4) psychic, and finally, (5) animal. In the latter case, animal parasites, for example, are apt to cause convulsions or syncope. But where the nervous system interferes most actively, it is in the course of infectious diseases. By elaborating toxins microbes act like exogenous poison and produce a series of reactions, which play an important rôle in the genesis of symptoms and lesions. The rôle of infectious causative factors will exclusively be considered here.

Nervous reactions are similar in intoxications and infections. Toxic substances introduced into the system produce the same effect whether they act directly on the nervous system or excite the latter indirectly by means of lesions or disturbances which they produce in cells of organs or tissues. The altered cells constitute an inflammatory obstacle which the organism is endeavoring to get rid of. Then nervous reactions are displayed and are manifested by a congestion followed by diapedesis, serous exudate, sometimes hemorrhages. Thus inflammatory lesions of viscera are explained. These inflammatory phenomena may be the product of departure for new nervous reactions which may be manifested in various psychic and other nervous disturbances.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

Man is constantly exposed to contagion and is daily attacked by pathogenic micro-organisms. Apart from those which live in him in a physiologic state, he has to struggle against special agents, such as bacillus of diphtheria, tuberculosis and eruptive fevers. Generally speaking, a healthy man is invulnerable. In order that a disease develop, a special state of the organism is necessary. Cold, fatigue, overexertion, errors in hygienic rules, depressing influences, have their predisposing effect, but the determining infectious element is absolutely indispensable in the causation of the malady.

The microbes or the toxins once introduced into the organism act exactly like poison, properly speaking. According to their particular aptitudes or according to the anterior states of various parts of the body, they will become localized in a selective manner in certain organs or tissues. There they determine cellular lesions, which in their turn provoke inflammatory reactions. The reason of the selective action of various toxic infectious agents is as yet not clear. On the other hand, while an infectious agent will attack by preference a certain organ primarily, nevertheless the poisons secreted by it will show their secondary effect throughout the entire system. A bacillus, typhoid for example, produces a local focus of infection in the intestines, but the toxins circulating in the vascular system will have an influence on the whole economy by means of their chemical combinations with Ehrlich's lateral chains of the cells.

The nervous system, generally speaking, presents a feeble organic resistance to toxic products. It is, therefore, very frequently affected in infectious diseases, but the character of the involvement of the nervous system is not always the same. If identical causes produce different effects, it is probably because they act on organisms whose nervous systems are not identical. It is a well-established fact that while in some cases the infectious agent or its toxins produce profound and unalterable changes, in others its effect shows itself only in transient circulatory changes. The latter may be, however, sufficiently pronounced to present clinical phenomena indicating disturbed functions of certain centers.

Owing to the fact that the changes of the nervous system are dependent on the localization of the infectious element, it is readily understood that all possible forms of cerebral or spinal diseases are met with. There are, however, certain forms which are frequent, and others that are very rare. General symptoms pointing to an involvement of the meninges of the brain are of frequent occurrence. Delirium, stupor and general prostration also belong to the frequent complications. The peripheral neuron, in whole or in part, suffers not infrequently in infectious diseases. Anterior poliomyelitis, transverse myelitis and multiple neuritis are the forms we meet now and then. Hemiplegia, however, occurs mostly in childhood, more rarely in adults. Symptoms pointing to an involvement of cerebral ganglia or of special centers of the brain are not frequent. Such cases have been reported, but they are comparatively few.

It is difficult to find the proper reason for the fact that while symptoms of organic diseases of the brain are rare, symptoms of involvement of the meninges are frequent. A still greater difficulty one finds when an explanation is sought to determine the cause of transient forms of organic diseases of the cerebrospinal system. That an infectious agent or its products are liable to injure permanently a certain portion of the cerebrospinal system and produce secondary degenerative processes is a matter easily conceived, but the disappearance of a genuine hemiplegia or other paralysis without consequences is certainly unusual. However, the conception of a localized meningitis is sufficient most of the time to explain the nervous phenomena observed in infectious diseases, especially when those phenomena are of cortical origin. The absence of inflammatory processes in centers of the nervous system in those cases which presented *ad vitam* transient symptoms of nervous diseases does not exclude the possibility of a localized meningitis in a great many cases. The existence of serous meningitis and curable meningitis is proved beyond doubt. The most recent investigations of the nature and of the chemical composition of the cerebrospinal fluid in meningitis are of great importance for diagnostic purposes. The studies of this fluid, and especially its cytology, have shown conclusively that between the favorable cases and the fatal ones there are various degrees of meningitis. This fact gives us a key to understand why in some cases the nervous phenomena are multiple and at the same time transitory in character.

Should the transitory manifestations of organic character occur in cerebral areas in which meninges are not present, such as in the internal capsule, basal ganglia, etc., the above view, based on irritation of the meninges, can no more be maintained. In such cases, as well as in all cases, transient organic phenomena find their adequate explanation in temporary contractions of cerebral blood vessels. This possibility is now well established. It has been observed from administration of suprarenal and pituitary glands. Cushing[1] demonstrated blanching of the blood vessels in the pia with adrenalin. C. F. Wiggers[2] has shown the same active vasomotor phenomena with drugs. Temporary contractions of retinal arteries have been observed in quinin poisoning. Williamson, in his work on diabetes mellitus, calls attention to cases of intermittent hemiplegia occurring in the course of diabetes without any visible lesions at necropsy.

Temporary closing of cerebral arteries was aptly compared by W. Russell to a condition which has its legitimate place in medicine and is known as intermittent claudication. "The attacks" of transient hemiplegia, or monoplegia, may or may not be accompanied by aphasia of equally transient character. Instead of complete motor hemiparalysis there may be only hemiparesis or a very slight weakness. Sometimes there may be repeated attacks of paresthesia on one side and each sensory attack usually leaves a slight feebleness on the same side.

In a contribution entitled "Spasmodic Closing of Cerebral Arteries in Relation to Apoplexy,"[3] the writer presented anatomicoclinical evidences of this phenomenon. The conclusion derived from such a study or from similar studies is that intermittent spasmodic contraction of the cerebral blood vessels produces a local ischemia at each attack and gradually leads to a destruction of the tissue supplied by them through a process of softening. The localized ischemia therefore produced by the blood vessels, no matter how brief it may have been, is not a matter of indifference to a highly organized substance as the nervous tissue.

As to the fundamental cause of transient contraction of the cerebral blood vessels, it is due to a state of irritability from whatever source the latter may originate. The source itself may be of a very brief or prolonged duration.

Infectious processes may exercise a temporary or a permanent influence on the central nervous system. Examples of both abound in the literature.

Ebstein[4] was first who, after a clinical and pathologic investigation on a man, 44 years of age, who died from typhoid fever, found the effects of the infectious disease expressed in a disseminated sclerosis. The chemical combinations found in the toxins are numerous; we find carbonic acid, hydrogen sulphid, ammonia gas, etc. On the other hand, cases of multiple sclerosis were reported as a result of intoxication with carbonic acid gas.[5] Disseminated sclerosis has been observed by Marie after typhus, variola, scarlet fever, measles, dysentery, pneumonia, by Charcot after cholera and diphtheria, by Sparks after whooping cough and grip.[6] Rendu[7] reports a case of transitory hemiplegia followed by symptoms of disseminated sclerosis which developed after some infection (verified by necropsy).

In Landry's paralysis there is always a history of infection; the pathologic findings always show engorgement of blood vessels, exudation.[8] Baumgarten, Curshmann, Eisenlohr, Cantanni, Marinesco and Marie found in the central nervous system of the cases of Landry's paralysis *Bacillus anthracis,* Eberth's bacillus, staphylococci and streptococci.

Muscular atrophies of spinal type were observed in the course of or following infectious processes, such as tuberculosis,[9] gonorrhea.[10] Multiple neuritis followed tuberculosis.[11]

Ataxia was seen to develop after measles, scarlet fever, typhoid fever, mumps, influenza.

That myelitis may be of infectious nature is proven beyond doubt. Marinesco found in two cases the streptococcus; in one case pneumococcus, and in one case, *B. anthracis.*

In a case of diphtheria Richon found lesions of the cells of the anterior horns atrophy with disappearance of the chromatin, involvement of the roots. Transverse lesions of the cord were studied by Bastian in various infections and among the latter smallpox.

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[1] Amer. Jour. Med. Sc., cxxiv, p. 375. 1902.
[2] Amer. Jour. of Phys., 1908, xxv, p. 454.
[3] Jour. of Nerv. and Ment. Dis., August, 1914.
[4] Deutsch. Archiv f. klin. Med., Bd. ix, x, 1872.
[5] Becker in Deutsch. med. Wchnschr., 1889; Etienne in Revue Neurol., 1900.
[6] Med. Times and Gaz., 1877, and Brit. Med. Jour., 1893.
[7] Presse Méd., 1900.
[8] Knapp-Thomas in Jour. of Nerv. and Ment. Dis., 1900; Soltmann in Jahn. f. Kinderheilk., Bd. I; Boinet in Gaz. d. hôp., 1899; Remlinger in Compt. rend Soc. Biol., 1896.
[9] Sulzer in Deutsch. Ztschr. f. Nerv., 1899 and 1900.
[10] Limasset in Rev. Neurol., 1900; Spillmann and Haushalter in Rev. de Méd., 1891.
[11] Decroly in Rev. Neurol., 1900; Finizzio in Riforma Med., 1906.

Experimentally myelitis was produced by a great variety of infections, among them diphtheria, rabies, typhoid, pneumonia, erysipelas. Ballet and Lebon, for example, produced a paraplegia with injections of cultures of pneumococcus; Vincent, with injections of cultures of typhoid bacillus.

Examples of this character could be multiplied. Many authors reported instances of ner vous and mental disturbances following infectious processes.

In the following statistical study data have been collected concerning various manifestations of the nervous system during the evolution of infectious diseases and persisting months after the initial toxic process had disappeared.

The entire series of 52 cases contain 8 cases of typhoid fever, 10 cases of pneumonia, 10 of influenza, 3 of scarlatina, 5 of measles, 3 of malaria, 8 of whooping cough, 5 of diphtheria.

1. *Typhoid Group.*—I will not dwell on the nervous manifestations of a general character, such as headache, pains in the back, tinnitus aurium, dizziness, somnolence, delirium, diminution of power of concentration with temporary impairment of memory, sometimes stupor—all symptoms which collectively or individually or in groups of two or more may be encountered in all febrile processes of greater or lesser intensity. All these symptoms in the majority of cases subside and eventually disappear without leaving any trace. I wish to call special attention to phenomena of an organic character, which have not disappeared at the time of recovery from the original disease, but on the contrary remained long after recovery and which have permanently incapacitated the suffering individuals. Of the eight cases there are five with persistent nervous manifestations and three with psychic symptoms.

The nervous phenomena are hemiplegia and monoplegia with aphasia, polyneuritis, brachial palsy, peripheral facial palsy, optic nerve atrophy.

The case with unilateral paralysis presented an onset typical of cases of an origin other than infectious diseases. Suddenly with and mostly without loss of consciousness, right-sided hemiplegia with aphasia developed. Endocarditis was present in all such cases, but was not in existence before the typhoid fever occurred. Evidently an embolism was the direct cause of the paralysis. The aphasia did not persist and eventually disappeared. Although the paralytic state of the limbs had also greatly improved, nevertheless two years later it was still present although in a much slighter degree.

The case of multiple neuritis which developed during convalescence, still presents some weakness of the extensor muscles of the lower extremities with diminished knee-jerks eighteen months after the onset. The unilateral facial palsy which occurred in the same case had also greatly improved but not totally disappeared.

The right brachial palsy of the same case had equally not completely disappeared. The patient still shows an impaired grip of the right hand; the musculature of the entire arm is flabby, but there are no reactions of degeneration. The biceps and triceps reflexes are increased on the same side.

Optic neuritis with subsequent atrophy was observed in one case, very probably due to a basal meningitis. In this case the general nervous manifestation to which reference was made above were unusually severe through the entire febrile period of the malady. Evidently there was a strong meningeal reaction.

The cases with psychic symptoms present this special feature that the psychoses developed during convalescence, while during the febrile phase of the typhoid there were no cerebral manifestations whatsoever. The psychoses consisted of a general asthenic state and intense mental depression. Even months after recovery from the typhoid it persisted with great tenacity. In one of these cases there were even suicidal tendencies with one attempt. The two other cases presented impairment of memory of a pronounced character. At the time of writing these notes, eighteen and twenty-six months, respectively, after the onset of the disorder, the depression still persists and occasional mild delirium is observed towards evening. What is particularly interesting in the psychotic cases, from the standpoint of etiology, and therefore of prophylaxis, is the fact that in all the three cases there was a marked neuropathic heredity and a personal predisposition to psychoneurotic episodic phenomena prior to the typhoid fever. As I have pointed out elsewhere, an underlying special make-up plays a preponderant rôle in development of psychoses.

2. *Pneumonia Group.*—There were neuritis, hemiplegia, multiple neuritis, external oculomotor paralysis, choreiform movements. In one case neuritis of the left brachial plexus developed during the febrile period, persistent after recovery from the pneumonia, and resulted in atrophy of the deltoid and supra-infraspinati also of the trapezius muscles. Reactions of degeneration are present two years after the onset.

One patient, a fireman on a train, developed during convalescence a bilateral ulnar neuritis.

Three cases presented evidences of polyneuritis affecting both lower extremities and the right upper extremity. Foot-drop and wrist-drop with marked diminution of reflexes were manifest. One month later he developed difficulty of breathing, apparently due to an involvement of the diaphragm. Gradually the latter improved, but thirteen months after recovery from pneumonia the polyneuritis was still in evidence.

In one case oculomotor paralysis of both sixth nerves developed during the febrile period and existed for twenty months.

The choreic cases were two in number. For about three months they persisted and finally disappeared. The occurrence of acute chorea in an acute infectious disease speaks in favor of the infectious origin of the former, a contention advanced by the writer several years ago.[12]

In two hemiplegia cases with an onset during the febrile period of the disease, aphasia was present, but it rapidly disappeared. A paretic state of the affected limbs remained one year after the onset of the condition. Its organic nature was evident from the presence of the toe-phenomenon and an increased patellar tendon reflex. The hemiplegia was probably either embolic or toxic.

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[12] Jour. A. M. A., Oct. 1, 1910.

3. *Influenza Group.*—In all the ten cases there were marked general nervous phenomena, during the acute febrile stage. In three cases headache was the most persistent manifestation during a period of seventeen months following recovery from the original disease. It was of the most intense character so that insomnia was inevitable. Intercostal neuralgia was present in two cases for many months. In another case there was a persistent left sciatica. A right monoplegia with a temporary aphasia was observed in one case. A paretic condition of the right arm with some flabbiness of its musculature is still present, two years after the onset.

In all the cases of the series an asthenic state followed for many months, but in three there were also psychic manifestations which are still present. Depression is the chief disturbance. There again, like in the first group, a psychopathic constitution was traced in all the cases. While a toxi-infectious state *per se* is capable to develop mental phenomena, nevertheless the latter are brought out with a greater facility and conspicuousness in individuals of a special psychic make-up.

4. *Measles Group.*—In one case there was a palsy of the right external peroneal nerve which finally disappeared at the end of the fifth month. In two cases of children, 9 and 15 years of age, paraplegia developed. For a period of several months it persisted but eventually disappeared. In one case, a girl of 19, aphasia made its appearance towards the termination of the disease. For three months she had some difficulty of articulation, but finally made a complete recovery. One patient had for many months, following recovery from the measles, severe headache with profound mental depression. Complete cure eventually took place.

5. *Malaria Group.*—There were in all three cases. In one the patient, a native of Panama, 40 years of age, bookkeeper by occupation, suffered from attacks of malaria for fifteen years. In one of these attack with a fever of 103 F. a sudden right hemiplegia with aphasia occurred in the afternoon without loss of consciousness. The aphasia rapidly disappeared, but the hemiplegia remained. The paralysis was mild, but persisted for three years since the onset. It was of organic nature as all the reflexes were characteristic. On the paralyzed side there was also hemianesthesia. In another case there was a distinct thalmic syndrome in a man of 39. The onset was also during a malarial attack, sudden and without loss of consciousness. A mild hemiplegia with a much pronounced hemianesthesia for deep sensations and slight hemianesthesia for superficial sensations, hemiataxia and choreiform movements and finally pain on the anesthetic side were the symptoms present. The condition, although in a much milder form, is still present, two and one-half years after the onset. The third and last patient was a man of 48 who had repeated attacks of the estivo-autumnal type of malaria during a period of several years. Three years ago, after one of those attacks, he observed a gradually increasing impairment of his memory which is still present and to alarming degree; besides, he has been suffering from a neuralgia in the domain of the left infraorbital nerve to a degree that he is deprived of sleep. He has developed within the last six months visual hallucinations of an obsessive character.

The pathogenesis of the malarial complications occurring in the nervous system had probably for basis a blocking of the cerebral arteries by malarial parasites and their products, or the effect of certain toxins liberated by them. In the hemiplegic cases the blocking behaved like a vegetative endocarditis producing small capsular embolisms with subsequent softening In the case with mental manifestations the blocking was probably cortical and especially diffuse in character.

The paralytic cases present this peculiarity that the hemiplegia is mild and so discreet that it may pass unnoticed if not closely examined. However, in spite of its slight intensity, it nevertheless may persist for years. The antimalarial treatment has no effect on the condition.

6. *Scarlatina Group.*—There were in all three cases. In one case a right hemiplegia and aphasia developed during convalescence after a period of severe headache during seven days. The paralysis came on suddenly without considerable loss of consciousness. The aphasia improved greatly but has not totally disappeared and together with the hemiplegia is still persistent, four years after the apoplectic insult. It was evidently due to embolism with subsequent softening in the left internal capsule.

In another case, girl of 16, there was a left hemiplegia without aphasia and epileptic seizures on the paralyzed side. Similarly to the first case the condition developed during convalescence. The convulsions made their appearance first and in one of these attacks the hemiplegia developed. At first the convulsions occurred very frequently, but at the present, two years after the onset, the seizures are only occasional and the paralysis is persistent with all its characteristic symptoms. The condition was probably due to an encephalitis of the left hemisphere with subsequent subcortical softening over the right motor area.

In the third case, girl of. 17, during convalescence without any elevation of temperature commenced to be mildly delirious in the evening. On the following day she had no knowledge of the delirium, but it was observed that she would frequently complain of headache and her memory became deficient. At the same time she developed a brachial neuritis on the right side. There was considerable pain in the entire arm and the nerve trunks in the axilla were very tender to slight pressure. The neuritis persisted for many months. At present, eighteen months after the onset, there is still some tenderness of the armpit and there are evidences of special involvement of the ulnar nerve; viz., some atrophy of the interossei muscles, also hypesthesia to touch, pain and temperature over the area of distribution of the ulnar nerve. The mentality of the patient is decidedly impaired, memory poor, she at times is confused and has difficulty in concentrating her thoughts for any length of time and has no initiative. The mental condition is probably due to a diffuse enephalitis of toxic origin.

Nervous and mental disorders in relation to scarlet fever may occur at any period of the disease but especially during convalescence. Such was the case in my three patients. Pelissier and Gouget[13] reports thirty-three out of fifty cases as occurring during convalescence. A number of writers insist on uremia with cerebral edema as the cause of hemiplegia in view of the fact that renal disorders frequently accompany scarlet fever, but this contention seems to be erroneous, because uremia paralysis is as a rule transitory and fugacious.

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[13] Bull. et Mém. de Soc. Méd. d. Hôp., 1909.

7. *Pertussis Group.*—The sequelae observed in this group are distributed as follows: Two cases with cranial nerve involvement, four cases with cerebral paralysis, one case with prolonged mental depression and one case with arrest of mental development complicated by choreiform movements.

The cranial nerve cases presented a palsy of the sixth pair with nystagmus in one case, and of the third nerve on one side in the other case. The disorder occurred in the first case with an apoplectic onset. During a paroxysm of coughing the child, aged 8, suddenly lost consciousness and fell. It is now five years since the occurrence, and while there is great improvement in the palsy, nevertheless there is no recovery.

In the second there were a similar onset and a similar long duration of the condition before improvement was noticed. In both cases very probably a nuclear hemorrhage occurred during the violent effort of coughing. In the paralytic cases there are three hemiplegics (with temporary aphasia) and one monoplegic without aphasia. The paralysis occurred on the right side in all four cases. The condition is persistent (from eight months to four years since the onset), and in view of the permanence it was due to an organic lesion (hemorrhage probably). In Paul Valentine's statistics of eighty-three cases the lesion was found to be hyperemia or punctate and large hemorrhages.

One case developed mental depression during convalescence. The original disease was protracted, lasted four months. The patient is now, two years later, still in a marked depressed state.

The last patient was a boy of 8, who before the whooping cough was considered mentally normal. Since the latter his mental capacity has undergone profound changes. For three years the parents and teachers have been endeavoring to bring him back to his former mental status. He is listless, inattentive, incapable of performing simple and uncomplicated acts and unable to resume his former studies. He is affected with choreiform movements of the arms, shoulders and face, such as observed in Sydenham's chorea. The pathogenesis in this case was probably a diffuse encephalitis with punctiform hemorrhages over the most important cortical areas with subsequent degenerative changes in the cells. Another possibility is to be considered; namely, a toxemic state of the cortical substance which by itself will interfere with the development of the cortex in the young.

8. *Diphtheritic Group.*—The five cases are distributed as follows: Two cases with paralysis of eye muscles, one case of hemiplegia, one case with permanent palatal paralysis and one case with bilateral involvement of the external popliteal nerve.

The eye cases present this interesting feature, that although the cases came under the writer's observation three and five months, respectively, nevertheless, considerable improvement was obtained from the immediate use of antitoxin. In both cases the external recti were involved. Since then (twelve and fourteen months later), no complete recovery has been obtained and a slight paretic condition of these muscles is still in evidence.

The hemiplegic case presented a sudden onset with no loss of consciousness, presumably due to an infectious embolism. The typical paralysis is persistent, one year after the onset.

The case of palatal paralysis developed the disorder during the period of full development of the disease and now, thirteen months after recovery from diphtheria, the patient presents a nasal voice; the uvula does not move during phonation and is deflected to the right side, liquids sometimes regurgitate, and there is some difficulty of swallowing. Antitoxin treatment had no favorable effect on the condition. The last case of this group presents a curious neuritic distribution. From its localization, viz., in both external popliteal nerves one is prone to incriminate the lumbosacral trunk from which these nerves originate. The symmetrical involvement of the nerve supply of both extremities presumes a possible diphtheritic attack of the fourth and fifth lumbar and first and second sacral segments of the cord. It may be, therefore, either a central (cord) or peripheral (roots) lesion. The patient at this time, two years after the onset of the condition, still presents a weakness of the extensor groups of muscles (some foot-drop), diminution of the patellar tendon reflexes and some atrophy of the muscles of the legs. The usual pathologic changes found in diphtheritic neuritis are parenchymatous degeneration of the peripheral nerves, hyperemia and hemorrhages.

The present study has for its purpose the laying special emphasis on the fact that infectious organisms or their product may be disseminated in the body by continuous extension of the infectious process and by successive invasion of the most delicate structures of the body. The permanence or persistence of lesions when they occur in the central or peripheral nervous system is of alarming character as they may lead to irremediable conditions. It is, therefore, evident that accurate knowledge of the factors that determine the invasion of the body and also knowledge of the ways in which the causative agents of infectious diseases are discharged from the infectious body as well as their mode of spreading are all of great practical value. The more precise and complete this knowledge, the more effective becomes our prevention.

When an infectious invasion has already taken place our endeavors must be directed at the earliest possible period of the disease towards the most energetic methods of treatment in order to avoid, if possible, collapse of important tissues and organs, such as the nervous system, for example.

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DISCUSSION

Dr. Theodore Diller, Pittsburgh: I am impressed with the great variety and serious character of the possible complications in the course of infectious diseases. Personally, I have seen a considerable number of these, among them hemiplegias in typhoid fever, and I recall a case of paraplegia. I have seen various psychoses follow typhoid fever; these were more commonly of the confusional type. Summarizing what Dr. Gordon has told us we must know that, during the course of or following infectious disease, almost any sort of organic disease may occur; also various types of functional disease simulating more or less those arising without this cause. The matter is serious and one in which we are helpless. In a given case of typhoid, of scarlet fever, or of diphtheria, I do not see with our present knowledge how any practitioner could predict that this or that serious complication may occur in a certain case. The only practical course is to give the best treatment appropriate for the individual disease and to be on the lookout, keeping in mind the possibility of these complications and sequelae and dealing with them in the most appropriate fashion should they develop. Montaigne said that there are a thousand ways of dying, or going out of the world. How we could have added to the list if this great philosopher were alive today.

Dr. Edward E. Mayer, Pittsburgh: I regard this as an eminently practical subject inasmuch as all physicians in some way or other deal with the sequelae of the infectious disease. It is impossible to do more than follow the general trend of Dr. Gordon's paper from hearing it read in part. We know that bacteria and their toxins react differently on the human body. What are the liabilities in reference to this or that sequela and how can the practitioner weigh them before complications ensue? What nervous and mental sequelae are due to the disease itself and which ones are the result of other constitutional factors? A preceding arteriosclerosis, the presence of syphilis, an undue addiction to alcohol, are factors to be weighed as much as a neuropathic make-up or the incidence of the infection itself. A collective study of cases such as Dr. Gordon has given us today offers an opportunity to enter into such problems and possibly may furnish some conclusions. But merely an enumeration of the sequelae leads to nothing new. We must prove them to be a result of the infection. Their occurrence after an infection is not a proof. Such logic is like the old saw that because women have been dictated to by men in olden times, it follows that women became stenographers.

Dr. Gordon, closing: It seems to me that the discussion was richer in information than the paper itself, because attention has been called to every phase of the problem, and particularly because of Dr. Mayer's emphasis on one point of the problem presented for further study. It is true that we are unable to tell in advance that such and such a nervous disorder will occur in such and such an infectious disease. There are, however, certain factors to be taken into consideration which sometimes help to determine the strong possibility of involvement of the nervous system. In any infectious disease we must try to ascertain whether a man had syphilis or was an alcoholic. If we find that he had, we may predict with a certain degree of probability that disturbance of the central nervous system will develop during the course of the infectious disease. We know the important rôle of the nervous reactions to various stimuli. A man who saturates himself every day with a little alcohol is likely to develop mental symptoms should he have an infectious disease of a certain virulence. In malaria the specific organisms have been found blocking the blood vessels. There are consequently instances in which we are able to tell in advance the probability of the development of nervous symptoms. I would suggest that every individual suffering from infectious disease should be repeatedly examined for evidence of nervous involvement. Frequently these symptoms are overlooked. The partial object of this paper is to emphasize the possibility of involvement of the nervous system during toxi-infectious processes; to look for special symptoms referable to the nervous system. With proper attention and management we may be able to arrest the oncoming disease.

Dr. Lichty has suggested to me the possibility of the influence of fatigue in the causation of nervous disturbances. Several years ago I put on record a number of instances of organic involvement of the nervous system in which overactivity played an important rôle in the production of nervous disturbances. In one instance of tabes eye symptoms, due to eyestrain on account of poor light, were pronounced. In this case optic atrophy developed very early. A right-handed man working in lead had paralysis of the right hand. In another case of tabes in a letter carrier ataxia of the lower extremities was the first symptom of the disease. There are cases of infection in which the patient is allowed to get up too early, into which the fatigue element enters. Nervous disorders may then readily develop. The factor of fatigue is an important one.

THE PROBLEM OF COMBATING SEPTICEMIA

WITH ESPECIAL REFERENCE TO THE USE OF ARSPHENAMIN *

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Septicemia in its narrow sense refers merely to the presence, growth and poisonous action of pathologic bacteria in the blood stream. Clinically the condition known as "septicemia" includes a combination of different, though closely associated pathologic conditions of which the name septicemia represents only a single transient phase. Since we are to discuss the treatment of a composite disease it is necessary to consider the individual lesions and processes which make it up and to take up the treatment of each phase or period separately rather than try to find a single measure which will fulfil all of the requirements. Clinically septicemia may be considered in five periods in the order of their appearance: (1) The presepticemic period; (2) the period of initial bacteremia; (3) the period of true septicemia; (4) the period of secondary localizations, and (5) the period of multiple reinfections of the blood stream.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

* The drugs used in this work were old salvarsan, diarsenol, and arsenobenzol, all of which are included under the term "arsphenamin." See Jour. A. M. A., June 22, 1918, p. 1969.

1. *The Presepticemic Period.*—Every patient who has within his body a lesion, due to organisms which are capable of living and growing in the blood stream, should be considered as in the presepticemic period, for he is potentially a septicemic case. In this class should be included not only wound infections, puerperal infections and other obvious lesions, but also those more obscurely situated in the tonsils, about the teeth, and along the respiratory, alimentary, genital tract, etc., for the insidious low grade infections very commonly develop into highly mortal septicemias.

2. *The Period of Bacteremia.*—It is probable that every severe local infection is accompanied by the passage into the blood stream of a certain number of the infecting organisms. The bacteria may enter the circulation by passing directly into the venous capillaries; they may be carried in by phagocytes which later break up and liberate them or they may lodge in thrombi of nearby vessels. The blood stream may rid itself of relatively large numbers of bacteria, a phenomenon which may be illustrated by the following examples: Nonlethal doses of virulent organisms injected into the blood stream of animals quickly disappear while the power of resistance of the blood stream is usually increased; severe local infections, in patients from whom positive blood cultures have been obtained, occasionally clear up directly after the local focus is drained; multiple lesions doubtless distributed by way of the circulation often develop without demonstrable blood stream contaminations. The protective action of the serum appears to depend on the presence of certain antibodies which are specific for the infecting organism and which vary greatly in quantity and in the nature of their action. When their resistant influence is sufficiently great, the bacteria are either destroyed or forced into the tissues, where for some reason, the serum is less efficient and where they often continue to grow and produce disease.

The diagnosis of bacteremia depends on finding a positive blood culture and, during the time required for the growth of the culture, the bacteria may be destroyed by the serum and the patient start on the way to recovery, they may pass into the tissues and secondary localizations occur, or true septicemia may develop.

3. *The Period of Septicemia.*—When the bacteria succeed in overcoming the resistant influences of the serum the blood stream becomes actually infected. The bacteria multiply in the stream, and live at the expense of the nutritive substances found there. The toxins which are the result of their metabolic processes are poured directly into the circulating blood so that they are at once carried to all parts of the body. The characteristic symptoms are the temperature reactions and a positive blood culture.

The typical temperature curve shows a gradual rise toward afternoon to a point in general consistent with the severity of the infection. It then makes a sudden, rather abrupt and greatly varying fall toward the normal base line. If the course of the infection is not interrupted the cycle is repeated daily with slight variations. The explanation of the daily rise is far from clear. The common infecting organisms in septicemia multiply continuously and without cessation, so that the condition is not comparable to the paroxysm in malaria, where the curve rises with the development of each new generation of the parasites. The rise and fall in the temperature probably depends on the swing of the balance between toxin production and toxin neutralization. Bacteria grow best at normal temperature and are somewhat inhibited at high temperatures, while antibody formation is optimum at febrile temperatures.

Another prominent symptom of septicemia is the leukocytosis, and the general rule for all acute infections holds; namely, that the higher the leukocytosis the better the patient's resistance, while any marked drop in the leukocytes indicates a more serious prognosis.

The diagnosis of septicemia is determined only when the findings of a positive blood culture is added to the above symptoms.

4. *The Period of Secondary Localization.*—Secondary localizations are the rule in staphylococcic blood stream infections and are extremely common in streptococcic and pneumococcic infections. The sites of predilection vary with the type of organism, pneumococci being likely to localize in the lungs, pleura, meninges, etc.; streptococci tending to attack the heart valves, serous surfaces, joints, bone marrow, muscles, etc., and staphylococci tending to metastasize to the internal organs and bone marrow. The prognosis in the stage of secondary localization depends on the vitality of the structures attacked; on the readiness with which the blood stream may be reinfected, and on whether or not it is surgically accessible.

5. *Period of Recurrent Infection of the Stream.*—When secondary localizations have been established each one may become a source of reinfection of the circulation, so that a "vicious circle" may be established and the outlook for a cure become exceedingly grave.

TREATMENT

The treatment of the condition clinically known as septicemia should be considered along at least four lines: (1) Local surgical treatment to remove the source of the infection; (2) general supportive hygienic measures; (3) reenforcement of the natural resistance when feasible by the use of biologic products; (4) the use of chemical therapeutic agents acting directly on organisms in the circulation.

1. The first principle consists in the prompt detection and thorough eradication of the local infected focus by the most expeditious means possible. Total excision has met with favor where the focus is easily accessible, and the Carrel-Dakin treatment has and is giving most excellent results where it is carried out properly. A case of puerperal sepsis which was referred for treatment to Dr. H. A. Miller was most interesting in this regard. The patient was admitted to the hospital in the late septicemic period with a large boggy uterus and much foul discharge. Carrel-Dakin irrigations of the uterine cavity were used and controlled from time to time with counts made by taking intra-uterine swabs. The blood stream became bacteria free under arsphenamin and the patient lived forty-four days, finally succumbing to a septic (streptococcic) nephritis. At necropsy, it was found that the uterus had undergone complete resolution, and aside from a completely organized thrombus in the broad ligament there was little macroscopically or microscopically to indicate previous infection. While this is only a single case, the value of Dakin's solution in its treatment is indisputable.

If the primary focus can not be determined and eliminated, repeated contamination of the blood stream is likely and the prognosis is unfavorable.

2. Directions for careful hygienic treatment are not within the scope of this paper, but no means of improving the patient's comfort and mental perspective should be lost sight of during the more energetic pursuit of aggressive therapeutic measures.

3. As a general rule the use of biologic products has given very little satisfaction in the treatment of septicemias. Antitoxic sera, such as are used in diphtheria and tetanus, have not been prepared against the common infecting bacteria of septicemic infections because the latter do not produce diffusible toxins to the extent that the former do. They belong to the class of endotoxin formers and are believed to be more toxic when autolyzed than when alive. While these facts are demonstrable in vitro they fail to entirely explain the bacterial action in the blood stream. No successful sera have been prepared against staphylococci, and those for pneumococci and streptococci have failed to reduce the mortality to any great extent. It is a well-recognized fact that the sera against both of these organisms are far more potent against local than generalized infections. The position usually taken, with reference to the use of antistreptococcic serum for the treatment of septicemia, is that it must be used early, must be given in large doses intravenously and that "if it does the patient no good it will at least do him no harm." Personal observation has convinced me of the fallacy of this latter statement, for I have formerly seen several patients suffering from streptococcic blood stream infection immediately begin to fail and die with unwonted rapidity after the intravenous administration of full doses of antistreptococcic serum. The theoretical explanation offered is that antistreptococcic serum is bacteriolytic and causes the sudden liberation of bacterial endotoxins which completely overwhelm the patient. This theory is compatible with the facts, but antistreptococcic sera have not been definitely shown to produce bacteriolysis in the blood and the potency of the so-called endotoxins are also

in question. Irrespective of this, strong arguments against its use are found in the facts that there are many varieties of streptococci, that the laboratory determination of the exact strain takes too much time, that the serum at hand may not contain antibodies against the offending strain and that the indiscriminate injection of protein substances is a dangerous practice. Moreover, I have on several occasions obtained positive cultures of streptococcus pyogenes from the blood of patients who had been given a full dose of antistreptococcic serum a few hours previously. Altogether, I feel that the serum treatment has been very discouraging.

Leukocyte extracts have been highly recommended by some. Good results have sometimes followed their use when the leukocytes have failed to react in the usual way either by remaining low from the outset or by sudden drop during the course of the infection. The leukocyte extracts seem to act by stimulating the leukocytes to renewed action. The results are not dependable, but so far as I know no ill effects have been reported and the protein content is sufficiently low to be ignored.

Vaccines, too, are of questionable value. The blood stream is already overloaded with organisms, and the addition of a few more nonvirulent forms can hardly improve matters. Vaccines prepared from the infecting organism may sometimes be used efficiently in the treatment of secondary foci, but such vaccines should be autogenous and "autogenous" in the sense that they have been made from the active infecting organism, and not "autogenous" in the sense that they have been made from "an organism" isolated from some irrelevant focus occurring somewhere in the same patient's body.

4. *The Use of a Chemical Therapeutic Agent for Its Direct Action on the Organisms in the Circulation.* An ideal drug for use intravenously in septicemias has never been found for it would necessarily include in addition to being nontoxic, the apparently incompatible properties of killing the organisms in the stream and of building up the natural resistance of the serum. Numerous drugs have been tried, among which should be mentioned magnesium sulphate, by Huggins,[1] collargol by Crede,[2] colloidal gold by Cuneo and Rolland,[3] bichlorid by Bacelli,[4] salvarsan by Bleynie,[5] etc. Some months ago we suggested to Dr. H. A. Miller the use of arsphenamin for a case of puerperal sepsis from which we had isolated the streptococcus equi. The patient promptly improved, the following blood culture was negative and complete recovery followed. Dr. C. S. Allison[6] then began a series of experiments to determine the value of arsphenamin as an antiseptic against streptococci, both in vitro and in the treatment of experimentally produced septicemias in rabbits. His results indicated that ordinary strains of streptococci, both of hemolytic and viridans groups, were killed in twenty-four hours' exposure to dilutions under 1 : 6,000 and were inhibited in growth by dilutions as high as 1 : 14,000, and that cultures whose lethal dose was 0.25 gm. per kilo weight for rabbits were killed after nine hours in a 1 : 3,000 dilution. He later repeated his work, using pneumococcus, staphylococcus, colon, and typhoid cultures. His results were similar, save that he found staphylococci very resistant. The treated cultures were controlled both by transplants and animal inoculations. The transplants failed to grow and the animals inoculated with the arsphenaminized cultures did not become infected by them. A most interesting feature was found in the fact that the bacteria were killed without being bacterialyzed, a point of considerable importance if there is anything in the "bacteriolysis, endotoxin liberation" theory.

Recently I added arsphenamin to virulent cultures of streptococci and staphylococci. Dilutions were made from 1 : 2,500 to 1 : 50,000. Transplants of streptococci made in twenty hours failed to grow when taken from tubes containing dilutions of 1 : 5,000 and below, and did not appear to be inhibited in dilutions over 1 : 10,000. Staphylococci were not killed in dilutions of 1 : 2,500. While the results did not show the antiseptic action in the very high dilutions, they did confirm Allison's observations on the bactericidal action of arsphenamin for streptococci in the lower dilutions.

In the second part of his work, Dr. Allison attempted to produce septicemia in rabbits, using Bull's[7] technic. He then used original salvarsan, diarsenol, and arsenobenzol in their treatment. He made bacterial plates before and at intervals after treatments and experienced great difficulty in establishing an experimental condition in the animals which was in any way comparable to septicemia in man. While his mortality record was only moderately encouraging, being 17 recoveries out of 25 animals compared to 8 recoveries out of 21 animals given similar doses and not treated, his work brought out many suggestions for the use of arsphenamin in human infections, and showed pretty conclusively that it possesses a bactericidal action against streptococci in the blood stream of experimental animals. This he did by taking the blood of treated and control animals, making plates from them and reinjecting other animals. The plates from the treated animals were sterile and the reinoculated animals developed no septicemia. The plates from the untreated animals were positive and the reinoculated animal did develop septicemia. By a series of comparisons of the bacterial plates, smears for quantitative phagocytosis, and leukocyte counts, it appeared that any great increase in the number of bacteria in the stream was accompanied by a drop in the number of leukocytes. Allison, therefore, depended on the drop in the count as an indication for a repetition of the treatment and found that if the leukocytes rose, the animal appeared improved, and that phagocytosis was, as a rule, increased after the treatment. In no instance did the animals show harmful effects from daily injections of full doses of any of the arsphenolamins.

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[1] Huggins: New York State Jour. of Med., 1914, xiv, p. 561.

[2] Crede: Berl. klin. Wchnschr., 1901, xxxviii, p. 941.

[3] Cuneo and Rolland: Bull. et mem. Soc. med. d'Hop. d'Par., 1915, 3 S. xxxix, p. 874.

[4] Bacelli: Atti. d. XI Congresso Med. Internat. Roma.

[5] Bleynie: Rev. mens. Gyne. et Obstet., 1913, vii, 3 abs.; Zentralbl. f. Gynäk., 1913, xxxvii, 2, 1910.

[6] Allison, C. S.: Jour. of Med. Research, Vol. xxxviii, No. 1.

For the results of the clinical application of arsphenamin in septicemias, I am entirely indebted to the reports kindly furnished to me by physicians who have used it.

Miller and Chalfant[8] reported eleven cases of puerperal sepsis treated with arsphenamin with seven recoveries and four deaths. Of the fatal cases two were never shown to have had positive blood cultures and one of these was known to have had general peritonitis so that it hardly seems fair to include these instances in computing the mortality rate. The other two patients died of complications, one of a Type I pneumonia on the tenth day and the other of secondary septic nephritis on the forty-fourth day. Dr. Miller has since treated a pregnant patient with endocarditis having a positive blood culture. Four doses of 0.6 gm. arsphenamin failed to produce a negative culture, though the patient improved after a spontaneous delivery and was discharged from the hospital. She died two weeks later.

Dr. W. W. G. Maclachlan of the Mercy Hospital, Pittsburgh, has kindly furnished me with the records of eleven acute infections in which he has used arsphenamin. Three patients with endocarditis, of from two and one-half to three months' standing, were temporarily improved, two have since died and one who left the hospital has been lost track of. One case of anemia with splenomegaly, negative Wassermann, and positive blood stream infection, improved greatly and showed negative blood cultures after two administrations of 0.4 gm. of arsenobenzol. Splenectomy was doné for the anemia and the patient later died. Three cases were of extensive cellulitis with positive blood cultures, two patients died and one made an excellent recovery. One puerperal sepsis began to improve immediately after one dose of 0.4 gm. arsenobenzol and made a rapid recovery. One compound fracture, with an osteomyelitis and blood culture positive for *Staphylococcus aureus,* was treated by Maclachlan and Weil, and recovered after five administrations of arsphenamin.

Drs. Robert Milligan and George McKee have supplied me with the histories of four septicemias following mastoid disease in which arsphenamin was used. One patient with an early blood stream contamination and prompt treatment recovered. The other three died. One was a child with a double mastoid whose temperature had reached 107 F. before arsphenamin was given. One developed a septic pneumonia, and one was diagnosed lateral thrombosis, and probable brain abscess at operation before arsphenamin was even contemplated.

Dr. H. R. Decker of the Presbyterian Hospital furnished the record of two of his cases in which arsphenamin was used. One was a streptococcus infection following gangrene of the toes. The toes were removed and three doses of 0.4 gm. of diarsenol given. The blood culture became negative after the second dose, and a complete recovery was obtained in spite of a complicating thrombophlebitis of the leg. In the other case two doses of 0.4 gm. were given for a blood stream infection following a vaginal operation for cancer of the uterus. Following the second dose the patient's temperature rose to 104 F., the patient exhibited signs of shock, and seemed worse after the treatment. She lived two weeks after the second dose was given.

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[7] Bull, C. G.: Jour. Exp. Med., xx, No. 3, 1914.

[8] Miller and Chalfant: Read before Amer. Gyn. Assn., Philadelphia, May, 1918.

Dr. Bornscheuer treated a case of streptococcus infection following a compound fracture of the leg accompanied by extensive necrosis and cellulitis of the thigh. The blood stream became negative after the injection of 0.6 gm. diarsenol, and the patient underwent a complete though prolonged recovery.

Dr. McKelvy applied arsphenamin in a case of chorea, presenting also a heart murmur, with excellent results. The blood cultures were negative after two 0.6 gm. doses. The patient ran a high temperature and exaggerated convulsive movements for a short time after each administration, but went on to a complete recovery.

Of twenty-nine proven septicemias recorded above as having been treated with arsphenamin, seventeen recovered and twelve died. The following organisms occurred: *Streptococcus pyogenes* occurred in ten instances; *Streptococcus mitis,* five times; *Streptococcus anginosis,* three times; *Streptococcus salvarius,* twice; *Streptococcus equi,* once; unidentified streptococci, four times; colon bacillus, once; unidentified gram-negative bacillus, twice, and *Staphylococcus aureus,* once.

All of the deaths were due to streptococci and the mortality rate was 48 per cent. compared to 83 per cent. given by Jacobs as the mortality per cent. for all streptococcic septicemias. The chief source of encouragement lay in the fact that a few apparently hopelessly ill patients recovered.

As a rule the patients were improved after arsphenamin, usually the temperature fell and the following blood culture was found to be negative. In several instances chills occurred or a sharp temporary rise in temperature followed. Out of a total of sixty-eight doses anything like a severe reaction was reported in only one instance, namely, the profound shock which occurred in Decker's carcinoma case. Here the patient recovered temporarily but was obviously weakened. Leukocyte counts both before and on the day following arsphenamin treatments, which were made independently by Miller and Decker, bore out the observations of Allison in his experiments, namely, that a marked leukocytosis followed the administration.

The treatment appeared to be beneficial when used early in all septicemias which followed surgically accessible primary foci, but of little value in endocarditis. The clinical diagnosis of endocarditis was made in six instances. Two were very early and recovered, two cleared up temporarily and died later, in one the blood stream was found to contain streptococci after repeated dosage, and the other was discharged as improved and the final result unknown.

Zinsser[9] cites endocarditis as an example of chronic septicemia which he says is due to a continuous discharge of bacteria from a secondary focus rather than an actual multiplication in the circulation. The vegetations on the heart valves serve as protective secondary foci in which the bacteria grow and from which they are discharged into the stream. Thus the stream is no sooner cleansed of one crop than it becomes contaminated with another.

From a study of the above data the writer would recommend an early blood culture in every case of suspected septicemia, an attempt to find and evacuate the primary focus and each secondary focus as soon as it appears, and the early use of arsphenamin if the local conditions can be cleansed. Some have preferred to use 0.4 gm. as the dose, but no ill effects have been reported from full 0.6 gm. doses. The dose for children should be computed on body weight. It seems almost unnecessary to say that any of the well recognized contraindications for arsphenamin in syphilis are just as applicable to acute septicemias. In using the treatment the clinician should work hand in hand with the laboratory because the daily blood cultures and the sudden drops in the number of leukocytes have so far proven the most valuable indications for repetitions of the treatment.

CONCLUSIONS

1. Arsphenamin is of great value in treating blood stream contaminations, especially if used during the stage of bacteremia, or together with the irradication of the local focus during the early stages of septicemia.

2. When used in the above stages the blood may be freed from ordinary bacteria and the likelihood of the formation of secondaries is greatly decreased.

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[9] Zinsser, H.: Infection and Resistance, p. 7.

3. In endocarditis and other conditions where secondary localizations have become firmly established, arsphenamin is likely to be disappointing because it has not been shown to be of value in reaching localized acute infections, and appears to be effective only in the blood stream itself.

DISCUSSION

Dr. Harold A. Miller, Pittsburgh: It seems a bit presumptuous on my part to attempt to discuss this subject from the standpoint of the obstetrician. We, as physicians, are not so definitely interested in the subject from the laboratory point of view as from the practical aspect, the safety of the remedial agent, its contraindications, the proper time to use, dosage, necessity for repeated dosage, ultimate results. We have used the remedy in 14 cases; 11 of these were reported to the American Gynecological Society last May, and since that time we have used the drug in 3 other cases, a total of 14. In none did we get any untoward symptoms which could be attributed to the use of the arsphenamin. The time for using it is the same as is considered proper for the use of any other remedy; the earlier it is used the less likely there is to be terminal pathology present when the remedial agent is exhibited. It is sometimes unfortunate to wait for a definite laboratory report, for a negative culture at the end of twenty-four hours is not always conclusive. In one or two instances we had a growth at the end of forty-eight hours in a culture apparently sterile at the end of twenty-four hours.

In the latter part of this series it was our method to take a blood culture in the septicemias and, if there were no contraindications, give the arsphenamin. We gave the drug intravenously, following carefully the technic advised in our laboratory experiments conducted by Dr. Allison. The greater the dilution, the longer the time before the organism is eradicated; hence, we use the maximum safe dose. Six tenths milligram is the average dose for the average individual. In every instance, with one exception, in which we gave the arsphenamin we secured a negative blood culture; the exception was a woman with a vegetative endocarditis. This never cleared up; the woman remained in the hospital for from four to six weeks, and died two weeks after leaving the hospital. In every instance in which we gave the drug there was a temperature drop in the way of crisis within twenty-four hours. Occasionally we would have reinfection of the blood stream. Our method of determining whether we should repeat the dose was to take a daily leukocyte count. In the very virulent cases the leukocyte count was low in comparison with the gravity of the illness. In almost every instance from twenty-four to forty-eight hours following the administration of the arsphenamin the leukocyte count would increase to as much as 32,000. Every time we had a drop in the leukocyte count without improvement in the patient's condition we took a culture of the blood and immediately gave the woman the arsphenamin. In the case quoted by Dr. Haythorn we inserted the Carrel-Dakin tubes. The cultures from the uterus were the same as those of the blood stream. The woman lived for forty-four days and the necropsy showed that she died from multiple streptococcus abscess of the kidney. The uterus was normal with the exception of one small thrombus in the broad ligament. We had one patient die of a number one pneumonia, one of multiple abscess of the kidney, and one of peritonitis. There was no fatality which we could attribute to the use of the arsphenamin.

In our experience we found no untoward effects; there were no exudates in the broad ligament and, apparently, the cases cleared up without adhesions. The failures we have had were the case of vegetative endocarditis and the patient dying of septic pneumonia; also one within twenty-four hours, of general peritonitis.

A paper was read by Dr. Chalfant and myself at the meeting of the American Gynecological Society in which these cases were reported, and since that time we have had three additional cases.

Dr. Grover C. Weil, Pittsburgh: I was not present when Dr. Haythorn read his paper, but I am familiar with the trend of it, and feel that it would be quite beneficial for me to review the history of a case of staphylococcic septicemia, which was treated by the administration of arsphenamin intravenously at the suggestion of Drs. Maclachlan and Haythorn. The patient was admitted to the hospital and was found to be suffering from a compound fracture of tibia and fibula. He was operated on, and treated by the open method of treatment of compound fractures. The general condition of the patient on admission was good. He suffered no immediate complications as result of his operation. In this open method of treatment of compound fractures it is quite necessary carefully to observe the patient's general condition, temperature, elimination and any evidence of glandular involvement of the limb following the operation, and it has been our good fortune to have been able to treat our compound fracture cases in this manner with but very little infection.

This patient was observed very carefully following his operation. His temperature remained between 99 and 101 F. for four days, and gradually subsided and reached normal within a week. During this time no general symptoms of infection were observed. After his temperature had been normal for one week, we felt that he had mobilized sufficient local defense at the site of the wound, and sufficient general resistance to permit dressing of the wound with perfect safety. The first dressing of the wound was performed two weeks following operation. On removing the splints we found considerable liquefaction necrosis present, which was carefully cleansed away with sodium oleate solution on cotton, care being taken to produce as little trauma as possible. A culture of the liquefaction necrosis was taken for bacteriologic examination.

In many cultures we have taken under similar conditions *B. aerogenes capsulatus, Streptococcus pyogenes, Staphylococcus aureus, B. coli, B. mucosus capsulatus* are found to be present, however, in an avirulent state. In this particular wound several organisms were isolated, the *Staphylococcus aureus* predominating and persisting. At the time of the first dressing, following cleansing of the wound, it presented a clean and granulating surface. There was no evidence of pus formation whatever. Dry dressing was applied to the wound, followed by the application of lateral plaster splints. Following this first dressing the patient developed a temperature to 101 F., without any appreciable general symptoms of infection, nor any evidence of infection about the site of the wound. The temperature remained elevated for three days, when it returned to normal, following which it remained normal until the second dressing was performed one week later.

At the second dressing of the wound, a very slight amount of liquefaction necrosis was noticed. The wound appeared quite healthy; no evidence of pus formation; no surrounding zone of inflammation. Dry dressing was reapplied, followed by the application of the splints. Following this dressing the temperature became elevated to 101 F. and continued to fluctuate between this point and normal for five weeks. During this time the wound was dressed daily and showed no evidence of infection and gradually healed.

The patient, however, showed a varied leukocytosis, between 12,000 and 15,000. There was a great disturbance in his general condition, showing marked emaciation and loss of appetite and failure of union. Several blood cultures were taken following his second dressing, all of which showed the presence of *Staphylococcus aureus* in his blood stream. However, no state of pyemia was found to exist at any time. The patient's general condition became so impaired that recovery was in doubt. At the end of five weeks following second dressing the wound had completely healed, yet the patient continued in a state of septicemia. He gradually became weaker, but at no time showing any evidence of overcoming the infection.

It was at this time that I consulted Dr. Haythorn and Dr. Maclachlan in regard to the administration of arsphenamin. Following our first injection of 3 decigrams the temperature subsided to 99 F. within three days. Another injection was given five days following first injection, and patient's temperature returned to normal within two days. Following each injection blood culture was taken and no organisms recovered. Patient rapidly regained weight; his general condition became markedly improved, and union resulted very rapidly. A marked amount of callus was found to be present three weeks following the administration of arsphenamin.

This case has been extremely interesting, and we feel that the subsidence of septicemia occurred following the administration of arsphenamin. The septicemia was of a persistent nature, not of an acute type. It has occurred to me that infections of this character are the type suitable for treatment by arsphenamin.

Dr. Haythorn, closing: In the experimental work there were fewer secondary localizations in the joints of the animals treated with arsphenamin than in those of the untreated animals. The results in the treatment of endocarditis were discouraging, but when we recall the observation of Zinsser that endocarditis is a secondary infection of the heart valves, and that the vegetations on them act as localizations, from which bacteria may be continually poured into the blood stream, it becomes obvious that no matter how often the blood stream is cleansed of bacteria, subsequent contaminations will occur. From the theoretical standpoint the outlook is not good. Following the administration of arsphenamin an increase in the number of leukocytes was a constant finding. An increase of 7,000 white cells occurred in the lowest instance and one of about 16,000 in the highest. Dr. Miller mentioned one of his patients as having died from a secondary streptococcic pneumonia. I have been over the records very recently and find a Type I pneumococcus was isolated from the sputum of this patient. In reference to Dr. Weil's remarks, I feel that the importance of repeated blood cultures, as made by him, should be emphasized. Particularly is this true in the presence of a persistent fluctuating temperature. The finding of one negative culture is not conclusive. While not arguing that arsphenamin is an ideal drug for the treatment of septicemia, we hope by its careful use to reduce the mortality in blood stream infections. It is also possible that a more efficatious remedy may be found in some closely allied drug.

THE TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM *

THOMAS PALMER TREDWAY, M.D.
ERIE

Obtaining good results in the treatment of syphilis of the central nervous system must depend primarily on two things, (1) the early recognition of the involvement of the central nervous system, (2) the selection of your cases to be treated.

We have learned from numerous observers that the involvement of the central nervous system with syphilis takes place early, although the manifestations of the disease may be years in presenting themselves. To arrive at an early diagnosis, the laboratory picture of the spinal fluid must be obtained in all cases of syphilis after the primary stage.

Not all cases of syphilis of the central nervous system can be helped with our present therapeutic measures. The ones presenting symptoms of an active lesion are those which should receive our attention. The cases presenting symptoms from scarred nerve tracts or centers are hopeless as far as treatment is concerned as it is impossible for us to regenerate nerve tissue. Here again, the laboratory findings are absolutely essential in order to make a definite classification. The Wassermann reaction, colloidal gold, globulin, and the cell count, each have their important place in the classification of cases.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

We have had added in the last few years to our therapeutic armamentarium for the treatment of syphilis of the central nervous system, the intraspinal method of injecting arsphenamin and mercury, the methods in common usage being, (1) auto-arsphenaminized serum; (2) arsphenamin in small quantities added to serum; (3) mercurialized serum; (4) arsphenamin in small quantities added directly to the fluid.

I have used all these methods but have had much better results with the latter method; that is, with the arsphenamin in small quantities added directly to the spinal fluid. The cases reported in this paper have received treatment by this method. My technic has been that devised by Wile of Ann Arbor. During a period of three years, I have used this method without any untoward effects. I have not seen a case in which the pain following the treatment could not be controlled by small doses of codein sulphate and even these are of rare occurrence. The method is very simple and I have often given an intravenous injection at the same sitting with the intraspinal treatment. The dosage used in the intraspinal treatments ranged from 0.1 to 0.3 milligrams. Patients are usually kept in a recumbent position for thirty-six hours following the injection. The following case will serve to illustrate a case in which no other treatment but the intraspinal injection of arsphenamin was used:

W. G., aged 38 years, entered Hamot Hospital in December, 1916. He had been unable to walk for three months before coming to the hospital. His inability to walk was due to the severe pain in his legs when attempting to take a step. Muscles were atrophied and patient weighed 97 pounds. Knee-jerks were absent, eyes reacted to light very slowly, blood Wassermann was negative, Wassermann on the spinal fluid was positive (++++), with the small dilution 0.2 c.c., cell count 120, globulin positive. The clinical picture was that of a multiple neuritis. The injections were given at first every ten days. After the first injection, the patient noticed an almost complete relief from pain. After six injections he was able to walk around the hospital. At this time he was discharged from the hospital but returned for treatment every two or three weeks until he had received twelve injections in all. He had returned to work, having gained 30 pounds in weight. At this time the spinal fluid gave a negative Wassermann. I might also add that each time the spinal fluid was examined, an examination was also made on the blood and only on one occasion was it found to give a positive Wassermann. I saw this man about four months ago on the street and he told me he had had no return of his previous trouble and has been at work at his trade, that of a machinist, ever since.

I have seen cases that have undergone intensive general treatment and the desired improvement has not been obtained, but, in some instances, these same cases do well following the intraspinal treatments. The following case will serve to illustrate:

F. W., aged 52 years, policeman, was compelled to stop work on account of attacks of dizziness. His blood was examined and gave a ++++ Wassermann. He received several intravenous injections of arsphenamin and also an extensive course of mercury. Very little improvement was shown.

I saw this man in April 1916, and found his spinal fluid to give a ++++ Wassermann in all dilutions, cell count 95, globulin positive. On standing, the dizziness was pronounced, the reflexes were absent, and the patient was confined a larger part of time to his bed. This man received four intraspinal injections of arsphenamin. A decided improvement was noted after the first treatment. Two weeks after the fourth injection he returned to work and discontinued treatment.

My experience in paresis has been very limited and I am inclined to believe the only good obtained is to bring on an early and prolonged remission.

In the treatment of tabes dorsalis we have brought before us a very interesting group of cases. To obtain good results in the treatment of this disease, we must of necessity make an early diagnosis. I have seen cases in which, clinically, the progression of the disease has been retarded over a period of three years. Best results are obtained from a combination of general and intraspinal treatments.

There is a group of tabetics in which, despite any treatment, progression of the disease takes place, and I am sure that in all of these cases we will find the spinal fluid will give a paretic curve with the colloidal gold solution showing at least a close relationship to paresis. Therefore, paresis and this group, as far as prognosis is concerned, can be classified together.

Our present forms of intraspinal medication are only a step forward and I look for a great improvement in technic and also in the drugs used. Until then, we must not depend entirely on the intraspinal or intravenous methods of treatment but use them both judiciously and if we select our cases a great good can be accomplished.

810 Peach Street.

OBSERVATIONS ON INTRASPINAL AUTO-ARSPHENAMINIZED SERUM TREATMENT OF CEREBROSPINAL SYPHILIS *

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PHILADELPHIA

The motives prompting Swift and Ellis to investigate this form of therapy arose from the realization that in certain types of tabes dorsalis there was a lack of response following general treatment, also a knowledge that the serum of patients treated with arsphenamin exhibited some general therapeutic effect. It was quite logical, therefore, in view of the pathology of tabes, to undertake studies relative to the clinical effect of intraspinal injections of hetero-arsphenaminized and auto-arsphenaminized serum. This clinical observation is, furthermore, confirmed by the Wassermann reaction, inasmuch as the reaction of the spinal fluid in certain neurologic cases persists positive long after the reaction of the blood serum becomes negative. Moreover, it is a common occurrence to find in neurologic syphilitic patients a negative blood and a positive spinal fluid Wassermann, or a weakly positive blood reaction, and a medium or strongly positive spinal fluid result.

These facts will be better comprehended by remembrance that communication between the lateral ventricles of the brain and the subarachnoid spaces of the brain and spinal cord exists through the foramina of Magendie and Luschka. The nervous choroid plexuses and the velum interpositum, possibly assisted by the blood vessels of the meninges, act as a great dividing plane or filtration plant between the blood and the spinal fluid. Owing to the fact that the specific gravity of the blood is greater than that of the intracranial venous blood, osmosis takes place in the direction of the venous blood. These facts may account for the failure of arsphenamin, administered intravenously, to reach the spinal fluid in any considerable quantity. In any event, so far as the effective treatment of cerebrospinal syphilis, notably tabes dorsalis, is concerned, it prompted a number of investigators to inject both arsphenamin and neo-arsphenamin directly into the subarachnoid space by spinal puncture. This practice by Wechselmann,[1] Marinesco,[2] Marie and Levaditi,[3] was modified by Ravaut[4] and Wile,[5] employing hypertonic solutions of neo-arsphenamin, but was followed by such marked reactions, even fatalities, that it has been practically abandoned.

It is unquestionably true that auto-arsphenaminized serum is much less irritating and dangerous than direct subdural injections of arsphenamin, or even the hypertonic solutions of neo-arsphenamin. Consequently, this method is deservedly the most popular and best form of intraspinal treatment for syphilis thus far proposed. In selected cases the serum may be advantageously fortified by the addition of small quantities of arsphenamin as recommended by Ogilvie and Fordyce.[6] In this connection the recent work of Corbus and Barbat[7] is of extreme interest, if not great importance. They believe that by reducing the pressure of the spinal fluid the permeability of the meninges may be increased. Hence puncture and withdrawal of the greater part of the cerebrospinal fluid soon after the intravenous administration of arsphenamin causes marked congestion of the capillaries and consequent osmosis of arsphenaminized serum in the direction of the subarachnoid space of the cord. Barbat claims to have been able by this method to demonstrate arsenic in the spinal fluid in 96 per cent. of cases twenty-four hours after intravenous injection, and believes the method to be superior to that of Swift-Ellis in certain respects, and feels that the clinical results will be as good as, if not better than, those which attend the older method.

My experience with the intraspinal injection of auto-arsphenaminized serum in the treatment of cerebrospinal syphilis extends over four and one-half years. The technic employed has been essentially that perfected and recommended by Swift and Ellis,[8] and detailed by the writer elsewhere.[9] The steps in this method of treatment are four: (1) Intravenous injection of arsphenamin; (2) venesection; (3) separation of serum from clot and preparation of the auto-arsphenaminized serum; (4) intraspinal injection of the prepared serum.

The practical points of importance to be remembered are: (*a*) The intraspinal injection to be given on the day following the intravenous administration of arsphenamin; (*b*) the separation of the clot and serum by standing, not by centrifugation; (*c*) the aseptic and careful preparation of the proper percentage strength solution of auto-arsphenaminized serum by a trained assistant; (*d*) the removal of spinal fluid equivalent in amount to the quantity of serum prepared for injection, and the preservation of this fluid for determination of the Wassermann reaction, lymphocyte count, Noguchi globulin test and colloidal gold test, all of which are useful as controls for subsequent treatment; (*e*) the utility and safety of the syringe properly employed, as compared with the gravity method of injection; (*f*) elevation of the foot of the bed for four to six hours after injection; (*g*) confinement to bed for at least two days; (*h*) repetition of treatment at intervals of two weeks, and (*i*) persistent continuation of treatment until the blood and spinal fluid are rendered permanently negative.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

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4. Ann. de Med., 1914, 1, p. 49.
5. Jour. Am. Med. Assn., 1914, 62, p. 1165; ibid., 1914, 63, p. 137.
6. Jour. Am. Med. Assn., 70, No. 3, p. 147, Jan. 19, 1918.
7. Jour. Am. Med. Assn., Aug. 15, 1914, p. 555.
8. New York Med. Jour., July 14, 1912, p. 52.
9. "Applied Immunology," J. B. Lippincott Co., 1915, p. 346.

The accompanying chart displays the analysis of twenty-five patients treated for cerebrospinal syphilis.[10] All received arsphenamin or neo-arsphenamin in full-sized doses, ranging from one to fifteen, but in four cases of tabes dorsalis, Nos. 16 to 19, incorporated for comparative study, no intraspinal injections were administered. In all sixty-two intraspinal injections of auto-arsphenaminized serum were given; obviously, in the cases tabulated, an insufficient number of treatments for the best or permanent results, as the "findings after treatment" demonstrate. Indeed, as a whole, the data submitted are not as convincing as might be, since in many cases the spinal fluid was not examined prior to intravenous treatment, nor so long as the blood exhibited a positive Wassermann, as it is my belief and practice not to resort to intraspinal medication so long as improvement is manifested either clinically, serologically, or microscopically, following intensive intravenous treatment. In other cases the effect of intravenous treatment alone could not be determined as the patients were referred for immediate treatment by the method of Swift and Ellis; in many of these the total amount of treatment has either been inadequate or sufficient time has not elapsed to speak absolutely of final results. The chart comprises 18 cases

TABULATED ANALYSIS—

				Findings Before Treatment													Intravenous	
				Clinical								Blood	Spinal Fluid					
No.	Name	Diagnosis	Duration	Tabetic Gait	Knee Jerks	Argyll-Robertson Dis.	Argyll-Robertson Lt.	Romberg	Residual Urine, C.c.	Relaxed Sphincter ani	Pains	Wassermann	Wassermann	Cells	Globulin	Gold Curve	Doses 606	Doses 914
1	F. M. B.	Tabes dorsalis	5 yr.	+	—	—	±	+	......	..	..	VW +	—	40	W +	....	4	3
2	A. W. H.	Tabes dorsalis	11 yr.	+	—.	+	+	+	......	+	+	—	W +	40	W +	....	....	3
3	W. B.	Tabes dorsalis	1 yr.	..	+	+	—	—	......	..	..	....	S +	79	W +	....	6	...
4	J. H. S.	Tabes dorsalis	2 yr.	—	+	±	±	—	150	..	—	W +	M +	8	—	....	2	...
5	D. B.	Tabes dorsalis	8 yr.	+	—	±	±	±	......	..	+	W +	S +	45	W +	....	1	...
6	J. M. O'D.	Tabes dorsalis	1 yr.	+	—	+	+	+	......	+	+	W +	M +	6	W +	1111000000	15	...
7	W. P. R.	Tabes dorsalis	2 yr.	—	±	—	—	—	360	..	—	—	M +	17	+	....	1	...
8	F. A. McM.	Tabes dorsalis	.2 yr.	±	—	—	—	+	900	..	—	W +	—	6	—	0000000000	8	1
9	C. F. C.	Tabes dorsalis	....	..	—	..	..	..	......	..	+	—	—	8	—	....	5	...
10	H. S.	Tabes dorsalis	2 wk.	—	±	—	—	—	......	..	..	S +	S +	90	+	....	9	...
11	B. C.	Tabes dorsalis	5 mo.	+	—	±	±	+	......	..	+	M +	S +	40	W +	....	4	...
12	S. A.	Tabes dorsalis	7 mo.	+	..	+	±	+	......	..	+	....	W +	20	W +	....	3	...
13	E. B.	Tabo-paresis	....	..	..	..	..	..	......	..	..	S +	S +	15	—	....	5	...
14	DeC.	Tabes dorsalis	....	..	..	-..	..	..	Com. Ret.	..	..	....	W +	8	.....	0000000000	2	1
15	C. C.	Tabes dorsalis	....	—	—	+	+	±	......	..	..	—	—	8	—	....	2	...
16	W. G. G.	Tabes dorsalis	....	..	..	..	..	..	300	+	+	S +	VW +	26	W +	....	12	...
17	H. L.	Tabes dorsalis	6 yr.	+	—	+	—	+++	Incont.	+	+	S +	S +	3	W +	011121000	9	...
18	M. H.	Tabes dorsalis	2 mo.	..	±	±	±	..	......	..	+	S +	....	..	.....	....	3	6
19	L. S.	Tabes dorsalis	8 yr.	+	—	+	+	+	475	..	..	VW +	VW +	4	—	....	7	...
20	F. W. C.	Paresis	2 wk.	..	..	..	..	..	......	..	..	W +	S +	48	W +	....	....	1
21	F. P.	Paresis	1½ yr.	..	..	..	..	..	......	..	..	W +	S +	32	W +	....	....	1
22	W. S.	Epilepsy	2 yr.	—	..	..	..	..	......	..	..	W +	S +	8	+	....	7	...
23	R. B. L.	Gummatous meningitis	3 yr.	..	..	±	±	..	......	..	..	+	W +	198	W +	....	9	...
24	N. S.	Optic atrophy	....	..	..	..	..	..	......	..	..	VW +	S +	33	M +	....	3	...
25	P. B.	Prog. muscular atrophy	18 mo.	..	..	..	..	..	......	..	+	S +	—	5	—	....	3	...

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[10] A number of additional cases of tabes have been treated during the past six months, but sufficient time has not elapsed to warrant their inclusion in this study.

of tabes dorsalis (7 in the early and 11 in the later stages of the disease), 2 cases of paresis, and 1 each of taboparesis, epilepsy, gummatous meningitis, optic atrophy and progressive muscular atrophy. An attempt has been made to classify the clinical, blood and spinal fluid findings before and after treatment.

In the 25 tabulated cases the blood Wassermann before treatment was positive in all but 7 (3 not stated). After treatment it was negative in all but 3 (7 not stated). The spinal fluid Wassermann before treatment was positive in all but 6 cases[11] (1 not stated). The lymphocytes varied from 3 to 198 per c.mm. Noguchi's globulin test was positive in all but 7 cases[11] (2 not stated). After treatment the blood Wassermann was found positive in only 3 cases (in 2 of these weakly). The spinal fluid Wassermann was still positive in all but 16 cases (4 not stated). The cells ranged from 2 to 18 per c.mm.; the globulin test remained positive in 10 cases (5 not stated). The results, after treatment, of the colloidal gold test showed improvement in a few cases.

Judged solely on the basis of the laboratory results, it is obvious that the majority of these patients have received insufficient treatment, and relapses are certain unless further intensive treatment be instituted.

The results, although inconclusive, if not brilliant, are at least encouraging, if one death due to poor judgment and carelessness on the part of physicians, rather than to arsphenamin or intraspinal medication, may be eliminated. Aside from this, 3 cases were clinically cured, 7 greatly improved, 7 slightly improved and 7 unimproved. The most brilliant results were obtained in early tabes: of 7 cases, 4 were greatly improved and 3 clinically cured. In later stages of the disease, 2 cases were greatly improved, 6 slightly improved and 2 were unimproved. Invariably there has existed a close parallelism between the clinical symptoms and the condition of the spinal fluid, the examination of the latter serving as a more delicate and indispensable control, strict attention to which may suffice to prevent relapses. At times the relief from clinical symptoms and disability has been truly amazing. In 7 cases afflicted with retention of urine, partial or complete (1 case),

—OF CASES

Treatment			Findings After Treatment													Interval	Result
Intraspinal Serum	Hg	KI			Clinical						Blood	Spinal Fluid					
					Argyll-Robertson												
No. of Injections	Daily	Daily	Tabetic Gait	Knee Jerks	Dis.	Lt.	Romberg	Residual Urine C.c.	Relaxed Sphincter ani	Pains	Wassermann	Wassermann	Cells	Globulin	Gold Curve		
2	Bin. Gr. ½	Gr. 15	—	..	..	..	..	......	..	..	—	—	5	—	....	4⅓ yr.	Greatly improved
3	....	......	+	—	+	+	+	......	+	+	—	M +	46	W +	....	4¼ yr.	Slightly improved
3	....	......	..	+	..	..	..	......	..	..	.....	M +	10	W +	....	3½ yr.	Greatly improved
2	Bic. Gr. ½	Gr. 15	—	+	+	+	±	70	..	..	—	—	2	—	....	3 yr.	Greatly improved
1	....	......	+	..	..	..	+	......	..	+	.....	S +	12	+	....	3½ yr.	Unimproved
6	Rubs	Gr. 710	+	R. + L. —	+	+	—	314	+	—	—	—	2	—	0000000000	1¾ yr.	Greatly improved
1	....	......	..	..	..	..	..	......	..	..	.....	.....	..	.....	....	....	Death
2	....	......	—	—	—	—	+	600	..	—	VW +	—	4	—	0000000000	1¼ yr.	Slightly improved
2	....	......	..	..	..	..	..	......	..	—	.....	.....	..	.....	....	10 mo.	Slightly improved
7	....	......	—	+	—	—	—	......	..	..	—	M +	13	+	....	10 mo.	Greatly improved
4	....	......	—	+	+	+	..	......	..	—	—	W +	..	.....	....	3½ yr.	Clinically cured
3	....	......	..	..	+	+	—	......	..	—	—	—	..	—	....	2½ yr.	Clinically cured
5	....	......	..	—	—	—	..	......	..	..	—	S +	18	W +	....	3½ yr.	Remission, paresis
3	Rubs	+	..	..	..	..	..	......	..	..	.....	—	9	—	0000000000	1 yr.	Slightly improved
2	....	......	..	..	..	..	..	......	..	..	.....	.....	..	.....	....	1½ yr.	Slightly improved
...	....	Gr. 90	—	+	+	+	—	0	+	—	—	—	13	VW +	....	2½ yr.	Clinically cured
...	Prot. Gr. ⅔	Gr. 30	+	—	+	—	++	Incont. at night	+	—	—	—	8	—	0000000000	1¼ yr.	Slightly improved
...	Rubs Pills	+	..	—	+	+	∓	......	..	—	—	VW +	10	+	....	10 mo.	Greatly improved
...	+	+	..	—	+	+	+	205	..	..	—	—	6	W +	....	7 mo.	Unimproved
1	....	......	..	..	..	..	..	......	..	..	.....	.....	..	.....	....	4½ yr.	Unimproved
1	+	......	—	—	—	—	+	......	..	—	W +	M +	..	+	....	3¼ yr.	Unimproved
6	....	......	..	..	..	..	..	......	..	..	—	—	4	—	0000100000	1½ yr.	Unimproved
3	+	+	..	..	..	..	..	......	..	..	—	VW +	6	W +	0000000000	2¼ yr.	Greatly improved
2	Cyanid. Hypo.	+	..	..	..	..	..	......	..	..	—	—	8	W +	....	4 yr.	Unimproved
3	....	......	..	..	..	..	..	......	..	—	S +	—	12	—	....	4 yr.	Slightly improved

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[11] It should be noted that in most if not all of the negative cases previous antisyphilitic treatment had been administered.

treatment was followed by diminution of the quantity (residual urine) in all; in 2 patients the residual urine entirely disappeared. Lancinating pains observed in 11 cases before treatment, entirely disappeared in all but 2. Precisely how much of this improvement is due to intravenous and how much should be ascribed to intraspinal treatment is a point that I have been unable to determine. Certainly in many cases, notably those of vascular endarteritis with disturbances of circulation and gummatous meningitis due to exudative changes, intravenous therapy alone will serve to produce the desired result. Case 16 is noteworthy in this respect. In not a few cases, however, the evidence furnished by the case reports of such authorities as Swift and Fordyce are incontrovertible. In parenchymatous degenerations, typified in paresis and exemplified in Cases 13, 20, 21, 22, 24 and 25, little or no benefit should be expected, and arsphenamin therapy, either intravenously or intraspinally, is contraindicated.

The importance of associating or supplementing the arsphenamin therapy of cerebrospinal syphilis with the iodids and mercury cannot be too strongly emphasized. There seems to be little doubt but that tabes and paresis begin in the secondary stage of syphilis. Therefore, in this stage, as also in the tertiary stage, even though a negative blood Wassermann be obtained after a course of treatment, it is advisable that the spinal fluid also be examined with respect to its possible abnormality and the necessity for further treatment; thus in some patients preventing the occurrence of those dreaded syphilitic neurologic calamities.

CONCLUSIONS

1. It is not claimed that arsphenamin therapy, either intravenously or intraspinally, can restore degenerated spinal cords or rescue victims from impending institutional care.

2. Although many patients, even tabetics, respond to general or intravenous treatment, the accessory employment of intraspinal treatment accelerates the restoration of the spinal fluid to normal, arrests the degenerative process and insures greater permanency of therapeutic results.

3. Intraspinal treatment by auto-arsphenaminized or arsphenaminized auto-arsphenaminized serum injections should supplement intensive intravenous therapy *only when necessary.*

4. Cases of endarteritis with vascular or circulatory disturbances and those with exudative gummatous meningitis, also many cases of tabes dorsalis, respond satisfactorily to intravenous therapy alone.

5. Cases with marked tract or cortical degeneration offer little if any hope of improvement by this or any other known method of treatment.

6. Treatment in qualified cases should be continued until the findings in the spinal fluid, as well as the blood, are rendered negative, excepting globulins, which may persist positive in many cases irrespective of the amount of treatment.

7. Mercury and the iodids continue to be indispensable supplementary therapeutic agents in the treatment of cerebrospinal syphilis.

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DISCUSSION

ON PAPERS OF DRS. TREDWAY AND THOMAS

Dr. Lorraine L. Schwartz, Pittsburgh: In discussing the excellent papers of Drs. Tredway and Thomas, I wish to reemphasize the importance of the early recognition of syphilis of the central nervous system; in other words, the prophylaxis.

Since it has been proved by numerous observers that involvement of the nervous system takes place early in the secondary period of the infection, it is the paramount duty of the physician who assumes the responsibility of treatment to ascertain the status of the spinal fluid in all cases early, that is, after about the third month of their infection. It has been well said that the fate of the syphilitic individual depends largely on the early diagnosis of his infection and the thoroughness and intensity with which his treatment is carried out in the first six months. In my opinion cases treated by the ordinary methods, using mercury by inunction or deep muscular injection, and arsphenamin intravenously will continue to develop a substantial percentage of neurosyphilitics. Not until the medical profession in general recognizes the necessity of early lumbar puncture as a routine measure in all cases of syphilis, and the securing of a normal spinal fluid, shall we be able to prevent posterior sclerosis, paresis, optic atrophy, and cerebrospinal syphilis.

To our skeptical colleagues who have employed the intraspinal method of medication in syphilis of the central nervous system without beneficial results, taking for granted that the method employed was logical in regard to dosage, intensity and regularity, I may say that I am in accord with many of their views, for when the patient reaches the neurologist, from one to twenty or more years have elapsed and his condition has been insidiously but relentlessly progressing. The inflammatory process has been replaced by degeneration or sclerosis and in this stage little can be expected from any form of treatment, no matter how employed.

Regarding Dr. Tredway's method of treatment, I have had no personal experience. We at first used the Swift and Ellis method. During our inability to procure arsphenamin we used the mercurialized serum (the Burns method). At present we are using the Swift and Ellis modified as follows: A half hour following the intravenous treatment we secure the blood and allow it to stand on ice over night; the following day we separate the serum from the clot and add to the serum, depending on the nature of the case, from one-twentieth to one-half milligram arsphenamin and proceed as in the Ogilvie method. With a negative serum we omit the intravenous and use the Ogilvie method.

After securing a negative serum and a normal spinal fluid it is our practice to recommend a prolonged course of mercury, and we believe this procedure justifiable until sufficient time has elapsed to prove or disprove the efficiency and permanency of the present therapy.

Dr. Jay F. Schamberg, Philadelphia: I unfortunately did not arrive in time to hear Dr. Tredway's paper and I am therefore unable to say anything in reference to it. I am in full accord with the deductions drawn by Dr. Thomas in his paper on the intraspinal treatment of cerebrospinal syphilis. We recognize that our conception of the life process of syphilis has undergone a profound change in recent years. During the early period of the disease there is a tremendous vascular dissemination of the parasites, at which time they are carried, not only to the skin and mucous membrane, but likewise to the various organs of the body, including the central nervous system. That the nervous system is invaded early is demonstrated by the high percentage of cases in which pathologic findings occur in the spinal fluid. We must also appreciate the fact that many patients who exhibit these pathologic findings in the early periods are not necessarily the subjects of later paresis or tabes. There are local antibodies which kill the spirochetes. We see this also in the skin; eruptions commonly disappear even without treatment. But here and there spirochetes remain either in their original spirochetic form or possibly in some other stage of a life cycle.

During the early stages of syphilis it is not rare to observe small involvement of the meninges. Neurologists have for many years seen cases of the exudative type of cerebrospinal syphilis quite early in the course of the disease. I have encountered one case occurring at the time of the roseola. The parenchymatous or degenerative changes come later on, represented by tabes and paresis. Neurologists also tell us that they have had in the past years success in the treatment of the exudative types with mercury and the iodids. The intravenous injection of arsphenamin in these cases is of greater value than the old methods of treatment. In cases of cerebrospinal syphilis of the exudative type, arsphenamin intravenously, conjoined with the use of mercury and the iodids, will commonly effect a disappearance of all symptoms. There are cases, however, in which it will be necessary to resort to intraspinal treatment. An important point, which has been much debated, is whether intraspinal treatment accomplishes that which the others just referred to do not achieve. There can be no doubt that in many cases it does. All physicians of large experience can cite instances in which patients have received intensive treatment by the old methods and likewise by intravenous administration of arsphenamin, and yet have failed to secure the relief which they later obtained from intraspinal medication. In my paper yesterday, I mentioned a striking case of a physician who for many years suffered from syphilis without any knowledge of such an infection. He developed tinnitus aurium, paraphasia and apoplectiform attacks. Despite numerous intravenous treatments of mercury and the iodids, he grew progressively worse and developed incoherence of speech and marked mental confusion. Thirty-six hours after an intraspinal treatment, his speech became perfect and his mind cleared up with marvelous suddenness. This improvement has now been maintained for seven months.

The medical profession must recognize that a great responsibility attaches to the treatment of syphilis. It is impossible to cure cases of parenchymatous diseases of the nervous system if degenerative changes have already taken place. We can no more restore degenerated cells and nerve fibers than we can grow fruit on wasted trees. We are fortunate, however, in the possession of certain tests, particularly the colloidal gold test which warns us in advance of impending changes in the nervous system. It must be realized that one cannot tell by the blood Wassermann what is transpiring in the central nervous system. It is essential that, in all patients in whom a negative blood Wassermann is obtained, the spinal fluid should be examined. The time to cure paresis is before clinical evidences of the disease develop. The treatment of tabes is more encouraging, for this disease can be arrested even after degenerative changes have taken place. If every patient with syphilis were so thoroughly examined that the early spinal fluid changes could be detected, and patients subjected to persistent and scientific treatment, tabes and paresis could be banished from the calendar of human ills.

Dr. Alfred Gordon, Philadelphia: I have had some experience in the treatment of neurosyphilis, covering the large field of involvement of the nervous system in the early or late stages. I have had an experience of several hundred cases of this kind systematically studied. Some of them are on record. I may mention one or two cases that gave immediate and brilliant results on the first or second administration of autoneo-arsphenaminized serum. One was that of a locomotive engineer in Camden referred to me for unusually severe pain in the lower extremities not relieved by ordinary methods. The man was formerly saturated with mercury and iodids to the point of intolerance, and intravenous treatment had been employed; I do not know exactly how many injections he had had, seven or more. The pain was so extreme that the patient was incapacitated. I advised that the only treatment to be carried out was that of intraspinal treatment. That man had only one treatment when the pain was relieved as with the snap of a spring. The psychic element may be mentioned by some as a factor; but here we have a case of lancinating pain due to syphilitic thickening of the meninges pressing on the roots of the spinal nerves. This could not be a question of psychic state but that of an organic condition. The man was so much improved that in two weeks he asked to be allowed to go back to his work. I advised that he continue the mercurial inunctions and iodids. The cycle of events was most striking in the relief given by one intraspinal injection.

I have other cases of tabes of a little longer duration than the first case mentioned also considerably relieved of pain and ataxia. In one case the knee jerks returned following several intraspinal injections. It is understood that all the patients of my series had other treatment, but the intraspinal injection gave actually very satisfactory results.

I have had some very regrettable results. In one very advanced case in which the patient was bedridden, with marked involvement of the bladder and rectum, having sharp shooting pain and even bedsores, the method advanced by Ravaut and followed in the minutest detail was carried out but with the result that the condition was made worse. From this experience the latter method does not appeal to me.

Regarding the laboratory and clinical experience I find, generally speaking, no parallelism between laboratory findings and the clinical symptoms. I have had a large number of cases in which clinical symptoms began to improve rapidly and continued to improve, yet in which the laboratory examination made of blood and spinal fluid and all the reactions showed no changes in spite of many injections given the patient. The clinical experience was markedly satisfactory in a number of instances. As to the number of injections there is no rule; one patient improved rapidly after the first; I have had one case which had twenty-seven; some have had six; the experience is quite variable. In the treatment of neurosyphilis my experience teaches me that all methods have their valuable points. I have had cases in which intraspinal injections did not accomplish much. My feeling is that while the old methods are good we have in the intraspinal method an excellent adjunct. The relation of the spirochetes to the circulation presents an obscure point yet to be solved. The object of injecting the auto-arsphenaminized serum into the spinal canal is to bring the fluid into close contact with the nervous system. We know from our pathologic studies that in syphilis the blood vessels and meninges are involved. The question arises why intravenous injections should not give as good results as the intraspinal. In two or three cases coming to necropsy I made scrapings of the cerebral tissue as well as of the meninges. The latter, especially the pia mater, is full of blood vessels. You would be surprised to see the tremendous number of spirochetes running in all directions. They are in the blood vessels and still we cannot reach them. It seems that intravenous injections do not reach them. They are killed only by injection into the spinal canal. What is the reason? I mention this as one of the essential features among many others yet to be solved.

Nothing has been said concerning intracranial treatment. In one experience with this treatment the man complained of terrific headaches which no ordinary treatment relieved. There were some symptoms also referable to the entire cerebrospinal system. He went through treatment in various institutions of this city and had, altogether, seventeen intravenous injections of the neo-arsphenamin, also intensive treatment with mercurials and iodids, but with no relief. I gave the patient thirteen intraspinal injections which were followed by considerable relief. He began to eat and sleep better but the headache persisted. I then suggested trephining and injection of neo-arsphenaminized serum. This was done and a remarkable relief was obtained, but not so rapid as in the case mentioned by Dr. Schamberg. At the end of six days, however, he was entirely free from headache. I have had other experiences with cerebral injections with excellent results. I was particularly impressed with Dr. Tredway's remarks that prophylaxis rests with the physician during the first six months after the infection. There are many obscure features of neurosyphilis difficult to solve, but prophylaxis is the factor of greatest importance. When I see in an infinitesimal speck of tissue in a paretic brain a most striking number of spirochetes I ask myself how can one reach the condition and obtain a cure. It is not when paresis or tabes is present that we can expect to be of service, but long before the affections have developed. It is manifestly our duty to have the patient understand that he must have treatment all his lifetime.

Dr. Paul G. Weston, Warren: Our experience has been mainly with cases of paresis and, unfortunately, the cases which come to us are fairly well advanced. In fact, they are so far advanced that their conduct causes them to be committed to the state hospital. We are not at all enthusiastic about the treatment of these cases and we have made no deductions. We leave that for others to do. A few years ago Dr. Darling divided the paretics into groups and treated each group differently. One group received no antisyphilitic treatment; another group received arsphenamin intravenously; a third group was treated with intramuscular injections of gray oil; a fourth received inunctions of mercury. None of these received any intraspinal treatment. A fifth group received, intraspinally, arsphenaminized serum; a sixth was given intraspinal injections of mercurialized human serum, and a seventh group received human serum to which neo-arsphenamin had been added. Dr. Finlayson treated a number of paretics by daily inunctions of mercury for eight days followed by a day with no treatment and lumbar puncture on the tenth day. As much fluid was withdrawn as would flow readily from the needle. We had, therefore, a group of paretics receiving each kind of treatment. The duration of the treatment varied. In some it was as short as four months. Fortunately for us, our patients usually remain with us and we can make continued observations. When we compared the average length of life of the treated patients with that of the untreated ones we found practically no difference, and when the brains were examined microscopically after necropsy, the same changes were found in the treated and untreated ones alike. So that in our experience, covering quite a number of cases, all we did was to use drugs and make observations. We make no deductions. That is for you to do if you wish.

The interpretation of laboratory findings is quite interesting. In Dr. Finlayson's series the Wassermann and colloidal gold reaction became negative in a number of cases and remained so for some time. Two cases were transferred from one ward to another and the treatment sheet was not sent with the patients. The fluids from both of these patients had been completely negative for some time but the very first puncture, made after treatment had been omitted for a few days, gave a fluid which was strongly positive; that is, had a plus Wassermann and paretic gold curve. I mention these cases merely to show that a negative fluid is of no great significance. A number of examinations at different times must be made of the spinal fluid before any deductions can be made. We still retain a number of primitive ideas regarding the significance of findings in the spinal fluid. Many lay stress on the increase of globulin. Mayhap it is of great value in some way or other. We have found increased globulin in a number of cases of the insane no matter what the mental diagnosis was. The same is true of the albumin content. The cell count, unless it is increased, is of no significance. We have had paretics run a regular course and die, and at no time had more than two cells to the cubic millimeter. A single examination of the spinal fluid is of not very great value. If the fluid of a paretic is examined frequently, a negative Wassermann is found now and then even without treatment. As I said a while ago, we do not make deductions. We have not gathered enough cases and have not observed them long enough. Three or four years is not enough time in which to test out these problems. Ten or twenty years from now will be the time to draw conclusions about the treatment of syphilis.

Dr. John A. Lichty, Pittsburgh: The technical side of this question I am not able to discuss, but the diagnostic and prognostic aspects interest the internist, in so far as it concerns the community and the state, and is very important. We are really dealing with the late manifestations of syphilis and, as has already been brought out in the discussion, in order to be successful in the treatment of these cases we shall have to cure the infection before it affects the cerebrospinal system; that is, early treatment is the necessary treatment. This is a problem of health, a large problem which we are up against, and I see no better place for discussion than in just such a symposium as this. In the *Survey* some one who has made a study of the question in the state of New York has shown that the expense to the state of the syphilitic, annually, is about $5,000,000. There is taken into consideration the care given by the state and the loss of time to the individual from the impairment of his efficiency. Enough money is thus wasted annually by a single state to build a battleship. I believe that throughout the state there is confusion among certain organizations and hospitals. The superintendent of a hospital will have a questionnaire from one organization, and the next day and the day following, another and another.

These patients, especially men, in the early stages will go either to the genito-urinary man or to the dermatologist. They avoid the family physician. It is to these specialists we have to look for early detection and treatment. The internist receives the patient at the time Dr. Weston has said, twenty years afterwards, and he is helpless. The problem is one far from being solved. Of the state organizations there are three which have taken up this question. It should be taken up by the State Board of Health in the same way that tuberculosis is looked after. The matter should be put on a basis that we might study it as tuberculosis is studied in this state. The Bureau of Medical Education and Licensure has taken the question up in a very different way from the standpoint of available hospitals for medical teaching, for the fifth year now, organized by the state. This bureau must be acquainted with the personnel of that hospital and the organization, and naturally the question of syphilis will come up. A fair test as to the efficiency of a hospital these days is the consideration and character of treatment given to the syphilitics. Dr. Baldy with the bureau has done much valuable work in agitating this matter and it is not to be considered that he is trespassing on the work of the State Board of Health. The matter belongs to that part of the work which he represents. The State Board of Charities, of which I have the honor to be a member, has also a certain obligation in this respect. This board is doing no more than salvaging, attending to the wrecks and providing the facilities for the proper care such as the state is able to give to these patients. If, therefore, the Board of Health, the Bureau of Medical Education and Licensure, and the State Board of Charities will work together I believe the question of syphilis can be met with some degree of success. The Board of Health, however, must take the initiative and plan the campaign.

Dr. Thomas, closing: I would agree thoroughly with Dr. Weston regarding the treatment of paresis. I have not obtained satisfactory results with the employment, either intravenously or intraspinally, of arsphenamin or auto-arsphenaminized serum in the treatment of paresis, as here illustrated; one case was definitely made worse. Concerning the gold curve, in the notes of my paper I make the statement that it has been of little or no value in my work. The results of the gold curve are not in accordance with the clinical condition of the patient or in accordance with the other clinical tests. The possibility of the solutions not being entirely satisfactory might account for this result. There is a great variability in the cell count as done by various workers, dependent on the method by which it is made. The counting chamber of Fuchs-Rosenthal is the most satisfactory. Answering Dr. Weston, the results quoted are entirely dependent on the time of observation since treatment and are not regarded as end results. I disagree with him in that even twenty years is sufficient time to decide the end results in syphilitic infection; indeed, a lifetime and future generations only can determine the efficiency or insufficiency of the present-day treatment of syphilis. In a few of the cases there have occurred two or three years after treatment certain manifestations of relapse in spite of negative blood and spinal fluid examinations. The recrudescent symptoms have not been so severe as the original, but there have been definite signs and symptoms of relapse. This observation, I think, will in the future be corroborated by the experience of other men. In such cases the adoption of the usual antisyphilitic treatment, consisting of mercury and iodids, promptly showed signs of improvement.

I disagree with Dr. Lichty that the genito-urinary men and the dermatologists see the cases first rather than the general practitioners. I believe the vast majority of venereal diseases are treated by the general practitioner, and unfortunately this is the reason, so far as syphilis is concerned, that we see so many instances of involvement of the nervous system. The public, when afflicted with venereal diseases, must be educated to demand treatment by genito-urinary specialists, just as it has learned to consult ophthalmologists when the complaint is disease of the eyes.

PLASTIC OPERATIONS IN THE VAGINA AND ON THE PELVIC FLOOR

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PHILADELPHIA

In the vast majority of cases plastic operations in the vagina and on the pelvic floor are undertaken for the repair of injuries resulting from childbirth and to restore the parts to as near a normal condition as is possible. To accomplish this one must be familiar with the normal structures and their functions and understand the mechanism by which these injuries are inflicted. In addition one must have a thorough knowledge of the principles and of the technic of plastic surgery.

The progress of abdominal surgery has been so rapid and fascinating that many operators have disdained plastic work and, as a result, know nothing about vaginal surgery. They fail to realize that more skill and better judgment are required to construct a real perineum or to cure a complete eversion of the vagina following hysterectomy than to perform the ordinary abdominal operations.

In our predilection for abdominal work we should not neglect to become proficient in gynecologic plastic surgery. If the operator lacks this knowledge, dislikes this line of work and operates on patients suffering from such lesions simply because they are referred to him, his judgment in the selection of the proper procedure and in its execution will not be good and the results in many cases will be unsatisfactory. Under such conditions many serious abdominal operations will be performed for lesions which could be dealt with better and more conservatively through the vagina.

Gynecologic plastic operations, performed by those who are interested in and have been well trained in this line of surgery, are probably done better and give more satisfactory results than at any time in the history of surgery. On the other hand, there is so much indifferent pelvic surgery done by all varieties of operators that the results, on a whole, are far from what they should be.

It is not uncommon to see a patient who will give a history of having had an abdominal operation with little or no relief from the pelvic discomfort. In many of these patients an examination will reveal well-marked or extensive injuries resulting from childbirth, after the repair of which she is thoroughly comfortable. Many a suffering woman would enjoy better health and be happier if her lacerations had been repaired at the time a celiotomy had been performed.

It is not my purpose to describe any new operation or to advocate any particular technic, but to call attention to a few cardinal points concerning the operations usually performed, in order that better results may be obtained.

In plastic work the surgeon should study the conditions present and then apply the operative technic best suited to that particular patient. One operation and only one operation for any particular lesion is a mistake and will give unsatisfactory results in a certain percentage of cases. When an operator makes the statement that some particular technic is the only cure for a certain lesion, he acknowledges the limitations of his surgical ability.

To state the only cure for prolapse of the uterus is the interposition operation, is the acme of absurdity. Others state they cure all cases of prolapse by a plastic operation alone. One statement is equally as erroneous as the other, as no technic has been devised which will cure every case of complete prolapse of the uterus. The operator who varies the technic to suit the particular conditions in each patient will have more cures than he who has only one method.

The interposition operation is an excellent procedure in certain cases but if performed on a young woman means she must have the tubes resected and be rendered barren, or run the risk of serious complications if she become pregnant. If the uterus be too small or too large, the result in many cases will be unsatisfactory. Watkins,[1] who devised the operation, estimated that at least 5 to 10 per cent. of his patients had had some recurrence of the uterine prolapse. It is fair to presume that his estimate did not overstate his recurrences. He collected a series of 728 cases by fourteen operators, and the results reported by eleven varied from 97.4 to 66 per cent., an average of 83.6 per cent. cures.

In performing a plastic operation the usual procedure is a preliminary curettement. There is no operation more abused and none followed by more disastrous results when performed by the inexperienced than the so-called simple D. and C. I am thoroughly convinced that a curettement, except for diagnostic purposes, is seldom indicated and of no value to the patient. We do not curet for so-called endometritis, as we do not have such cases; and I very seriously question if there is such a pathologic entity in an otherwise normal uterus with pelvic organs in normal condition. Irrigation of the uterus after a curettement is productive of no good, and may be harmful.

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[1] Watkins, T. J.: American Journal of Obstetrics, 1912, Vol. 65, pp. 225-242.

In dealing with injuries to the cervix, I believe the majority should be repaired, not amputated. An even, uniform denudation with accurate coaptation of the tissues will give excellent results. Whether the sutures be interrupted, continuous or a two-layer continuous, will make but little difference in the ultimate result.

In certain cases it is better to amputate the cervix, while in others an amputation is imperative.

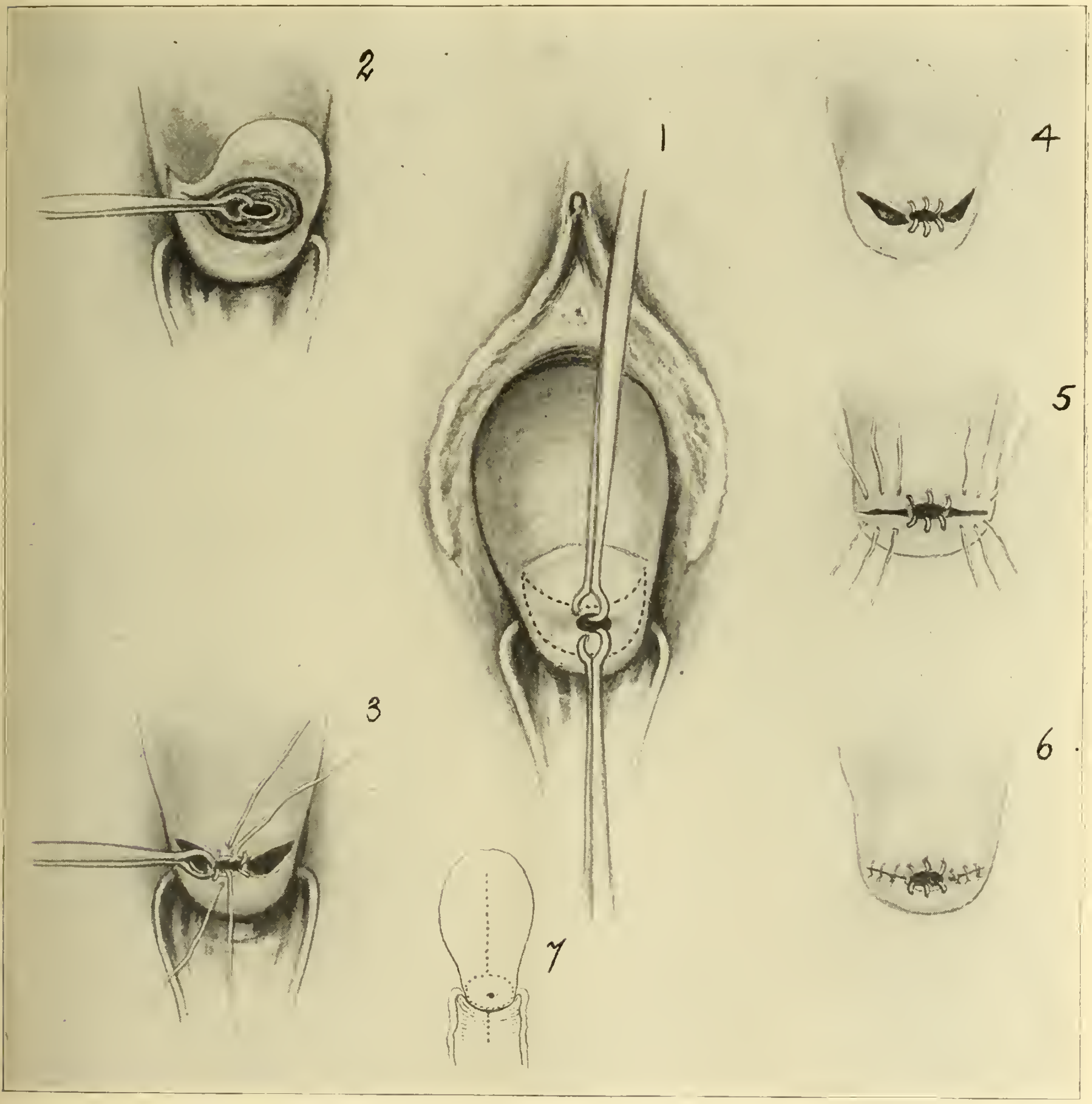

Fig. I.—1. Dotted line indicates where incision through vaginal walls should be made. 2. Shows flaps and amputated cervix. 3. Sutures to approximate the vaginal and cervical mucosa. 4. Sutures to form new os have been tied. 5. Position of lateral sutures. 6. Operation has been completed. 7. Dotted line indicates incision to lengthen anterior vaginal wall.

In performing an amputation of the cervix, the incision through the vaginal wall should not be made at the bladder reflexion of the peritoneum and at a corresponding point on the posterior wall, as is so frequently done. It should be made at the junction of the face of the cervix with the anterior and posterior vaginal walls (Fig. I, 1), flaps dissected back (Fig. I, 2), and every portion of the vaginal wall conserved. By this technic, the flaps are sufficiently long to cover the stump without the slightest tension. When the incision is made at the bladder reflexion of the peritoneum the vaginal wall retracts and must be pulled down some distance in order to cover the stump, with the result that the anterior vaginal wall is considerably shortened. If the vaginal wall be naturally short, the additional shortening will pull down the cervix towards the external urinary meatus, the fundus will go back and in such cases it will be difficult or even impossible to keep the uterus in the normal position.

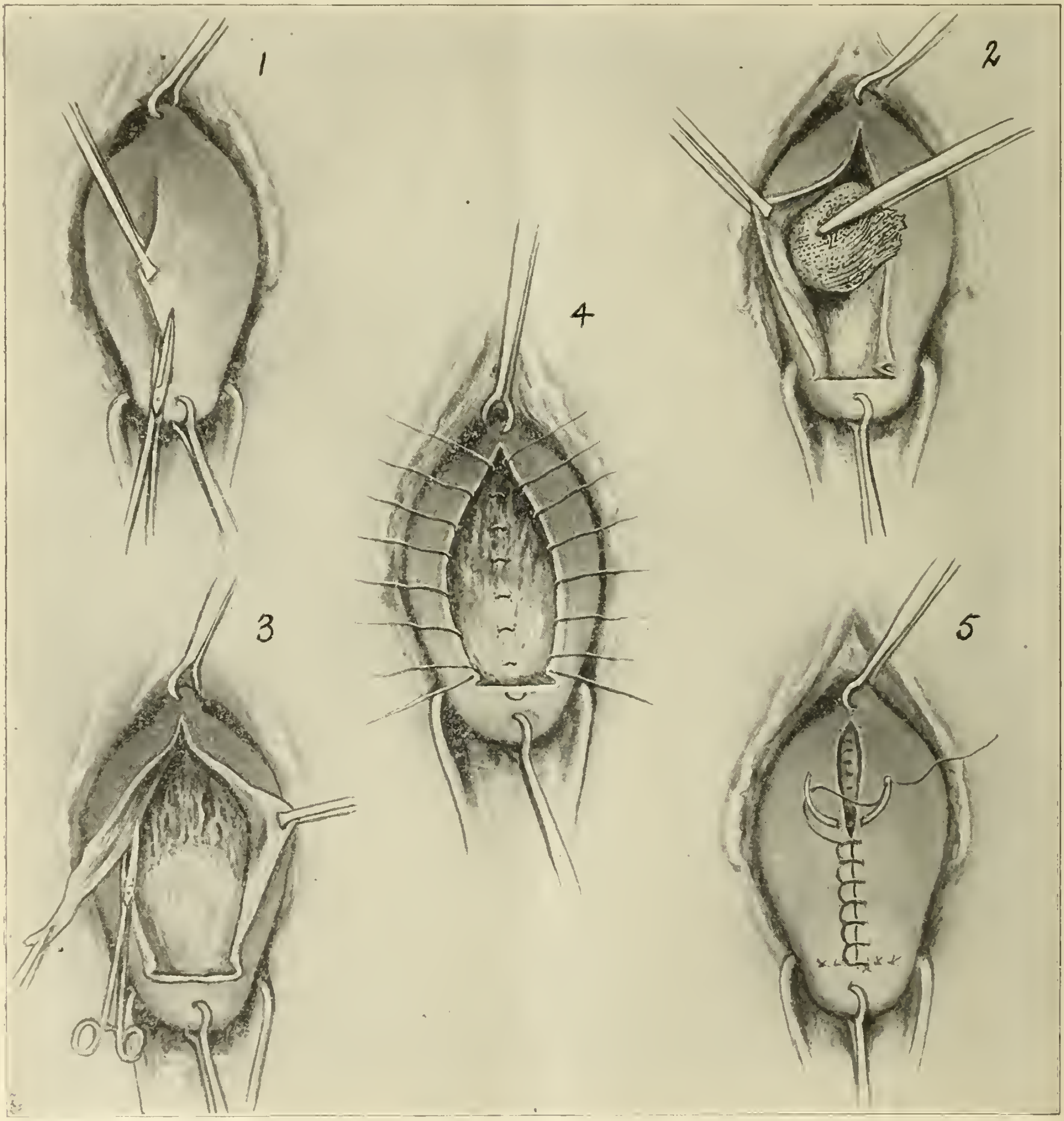

Fig. II.—1. Application of bullet forceps to indicate length of incision. First step in denudation. 2. Separation of bladder from vaginal wall. 3. Cutting away stretched-out excessive vaginal wall. 4. Deep sutures have been introduced to approximate fibrous tissue beneath bladder. 5. Closing of vaginal wall with lock stitch to prevent shortening.

In the amputation of a limb, no experienced surgeon would divide the skin, superficial structures, muscles and bone at the same level, as the retraction of the tissues over the end of the bone would cause a neurosis of the flaps. To obviate this, generous flaps are made. The same principle pertains in an amputation of the cervix. The difference being that the flaps are sutured over soft tissue and there is no neurosis, but the cervix is pulled forward and upward and the fundus uteri tips back.

The work on the cervix being completed, attention should be given to the anterior vaginal wall, and in cases in which there is considerable relaxation or a cystocele, an anterior colporrhaphy should be performed. While many technics have been devised, the only procedure worthy of consideration is that which opens the entire thickness of the vaginal wall so that

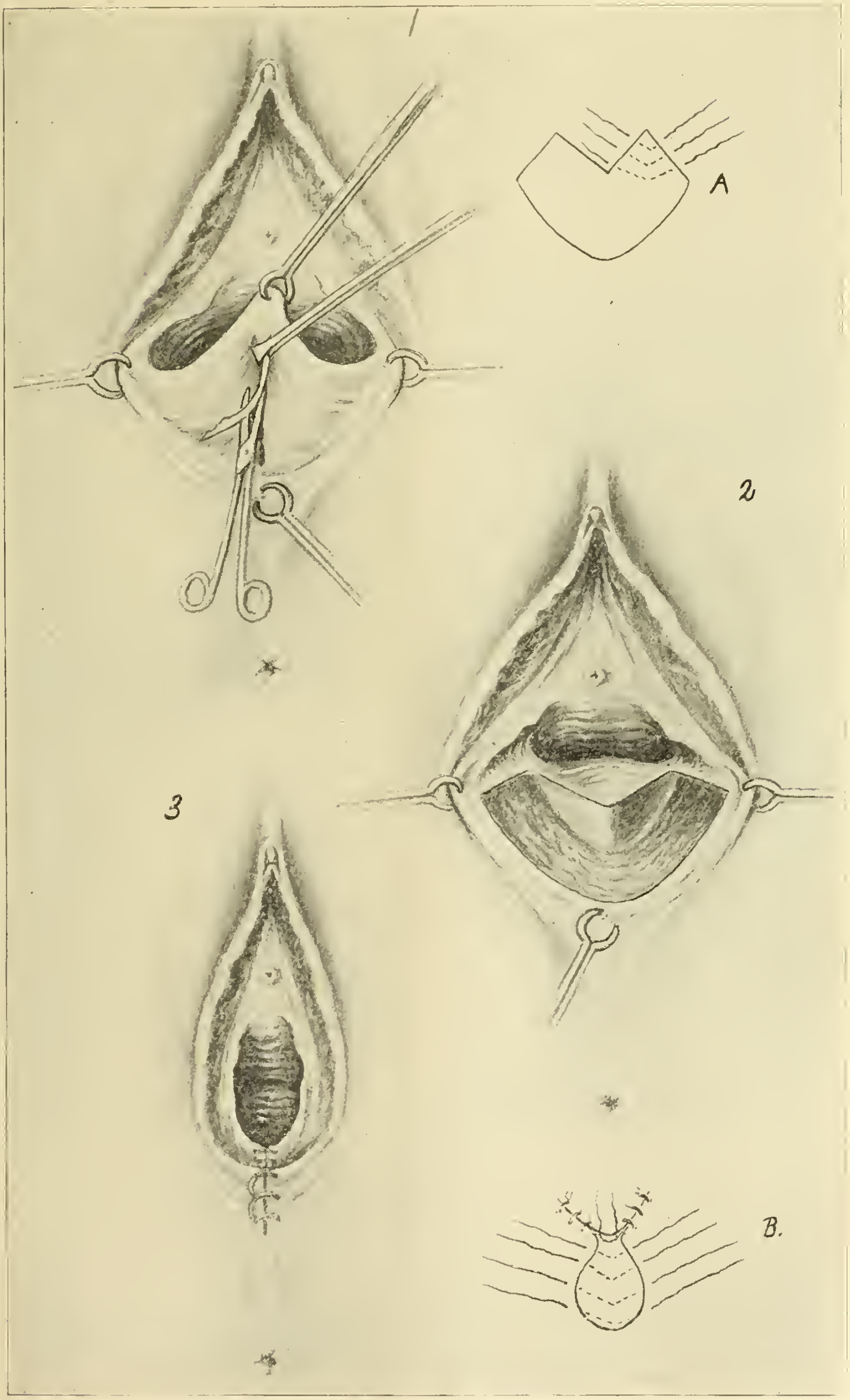

Fig. III.—1. Application of bullet forceps to mark area of denudation which begins in midline. 2. Denudation has been completed. End of central denudation when free of traction is at level of hymen. A. Position of sutures in sulcus. B. Location of sutures below level of hymen. 3. Finished operation.

the bladder can be freely separated and elevated and the strong fibrous tissue beneath accurately sutured (Fig. II, 1 and 2). Little or no support will be obtained from suturing the stretched out vaginal wall. Here again it is most important not to foreshorten the vaginal wall, which will result if a simple, continuous suture be used. This foreshortening can be prevented by using an interrupted suture or a lock-stitch (Fig. II, 4 and 5). If naturally short, the anterior wall may be lengthened (Fig. I, 7) by carrying the midline incision around the cervix, splitting the posterior vaginal wall and sliding the tissues around in front of the cervix. After an anterior colporrhaphy has been completed, especially in a case of prolapse, it should not be necessary to push the uterus back in the vagina and up in the pelvis. If the technic be right, as the sutures are tied, the cervix will go back and the fundus will go up.

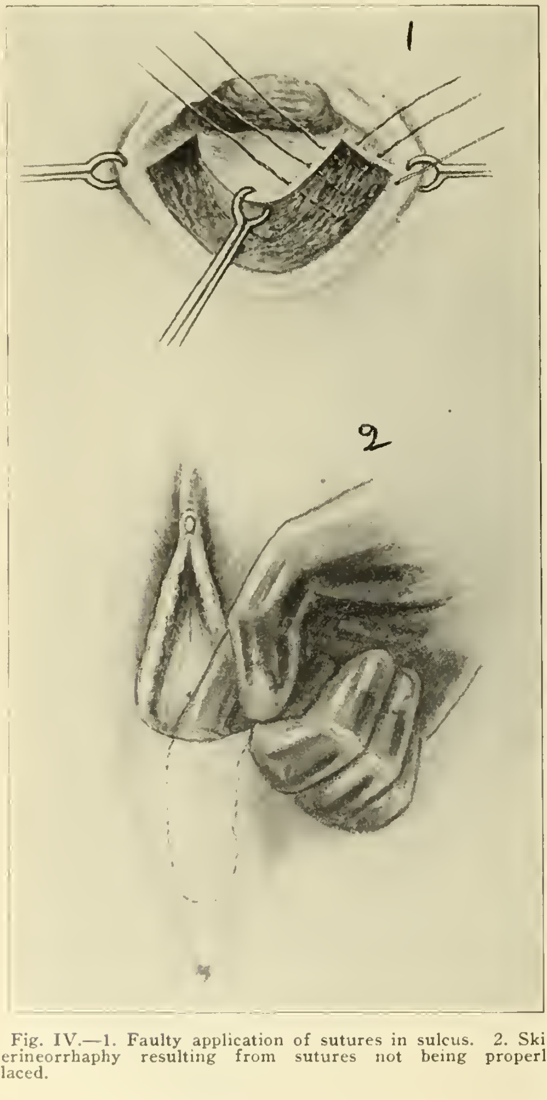

Fig. IV.—1. Faulty application of sutures in sulcus. 2. Skin perineorrhaphy resulting from sutures not being properly placed.

The last procedure in a full line of plastic work is the repair of the damaged perineum. Here I wish to state that we have no pet technic for a perineorrhaphy. We do an Emmet, a Hegar, a so-called submucous and a Hirst, all excellent operations when applied to the proper patient, but not one is a cure-all for every damaged perineum.

Before one can do a good operation, he must have studied the normal perineum.

In performing a perineorrhaphy of the Emmet type, the bullet forceps are applied laterally at the level of the myrtiform caruncles and the one in the center at the most prominent part of the rectocele, or at a position where traction is made upward, the tissue in the grasp of the forceps will approach the external urinary meatus (Fig. III, 1). The three forceps are practically on the same level after the denudation has been made (Fig. III, 2). The central tip, when free of all traction, is at the level of the hymen (Fig. III, 2). As the sutures are introduced, the vaginal walls should be pushed up in the pelvis and anchored to the muscles and fascia in that position.

Downward traction should not be made on the central tip when the sutures are being placed in the sulci, as the posterior vaginal wall will be shortened and the central tip will be anchored so far down that it will interfere with the proper approximation of the sides of the damaged perineal body (Fig. IV, 1), and when the operation has been completed the vaginal walls will be far apart and there will simply be a "dashboard" perineum (Fig. IV, 2). The extent of this skin perineum will depend on how high up the operator sutures the superficial tissues. Many times have I seen a perineorrhaphy done by this faulty technic, in which the perineal body instead of being a convex surface of from 3 cm. to 3.5 cm. from the anus to the fourchet (Fig. V) was a straight line of from 5 cm. to 6 cm. or even 7 cm. (Fig. IV, 2). In fact, I have seen them so long and so high that when the patient urinated the fluid ran back into the vagina. The support furnished by such a perineum is extremely slight, and nature never made one in such a manner.

In a complete prolapse in a young woman, in whom either the technic of Goffe or Mayo or an interposition operation is undesirable and the surgeon elects to do a full line of plastic work, sacrifices a portion of the vaginal wall when the cervix is amputated, further shortens the anterior wall by faulty suturing in the colporrhaphy, and then shortens the posterior wall by pulling it down when the sutures are introduced in the perineum, the purpose of the operation has been defeated. No method of shortening the round ligaments or of suturing up the uterus will maintain it in place under such conditions. These errors of technic probably explain why some surgeons seldom cure a case of complete prolapse of the uterus by any method.

We have long since given up dissecting out the levator muscles as we are satisfied the fascia gives the chief support. When the muscles have been dissected out, unless the operator deliberately and carefully sutures the fascia above and below so as to support them in the new position, shortly after the sutures have been absorbed they will retract to their former position.

When operating for the cure of a complete eversion of the vagina, following hysterectomy, the vagina must be anchored to the white line as no technic will build up a perineum over which its walls will not roll if it has not been so anchored.

Three years ago we had a patient with such a condition on whom a prominent surgeon on two occasions had sutured the cervix to the atrophied round ligaments. When the patient got out of bed after the first operation, the eversion returned. Following the second operation the vagina rolled out a few days after she left the hospital. The surgeon proposed to do the same thing a third time and stated he would use permanent sutures. A short time later, she came under our care. The slack was taken out of the anterior vaginal wall, the vagina was then anchored to the white line and a perineum put under it. She had no further pelvic trouble.

An eversion of the vagina following hysterectomy can be prevented if the cervical stump, or the vaginal walls in case of a complete hysterectomy, be sutured by a proper technic to the infundibulopelvic and round ligaments and a good perineorrhaphy done at the same time.

In complete rupture of the perineum, with a laceration up the rectum, we dissect the bowel, after the method of Noble,[2] so that the angle of the laceration can be brought down below the sphincter. If the laceration be too extensive, we turn down a flap from the vagina, as described by Ristine.[3] The ends of the sphincter are dissected out and accurately brought together with chromic catgut. One silkworm gut suture is used to splint the muscle and to take the tension off the sutures at the mucocutaneous margin (Fig. VI, 2). The operation above is completed in the usual way. We seldom place sutures in the rectum in such cases, as better results are obtained by the other technic.

In this connection, I might state that, in simple fistula in ano, freeing the bowel and bringing the opening down below the sphincter, as I[4] have described in another publication, also gives excellent results, and the sphincter is not sacrificed.

Plastic operations, as described by Hill[5] and Baldy,[6] for incontinence or dribbing of urine, give excellent results. In the few cases in which we have employed the operations, the results have been perfect.

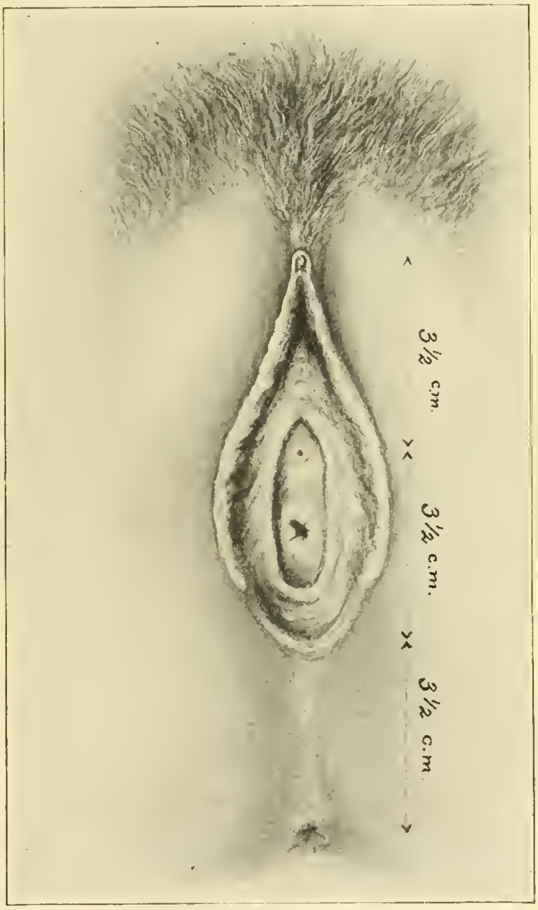

Fig. V.—1. Normal perineum with scale from anus to fourchet, fourchet to urinary meatus, urinary meatus to clitoris.

In cases of prolapse in which the uterus is retained and the interposition operation not desirable, in addition to the plastic work, it is advisable in the vast majority of cases to perform some abdominal procedure to assist in maintaining the uterus in its anterior position. This may be done by one of the various operations on the round ligaments. In patients past the menopause, a suspension or fixation is justifiable.

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[2] Noble, George H.: Tr. Southern Surgical and Gynecological Association, 1902, Vol. 15, pp. 101-105.

[3] Ristine, C. E.: American Journal of Obstetrics, 1900, Vol. 61, pp. 365-371.

[4] Tracy, S. E.: American Journal of Obstetrics, 1913, Vol. 67, pp. 33-35.

[5] Hill, R. S.: Surgery, Gynecology and Obstetrics, 1909, Vol. 8, p. 211.

[6] Baldy, J. M.: Surgery, Gynecology and Obstetrics, 1913, Vol. 17, pp. 533-535.

If, for any reason, it is necessary to do a supravaginal hysterectomy, the cervical stump should be sutured to the infundibulopelvic and round ligaments by a definite technic or anchored to the abdominal wall by the technic of Baldy.[7]

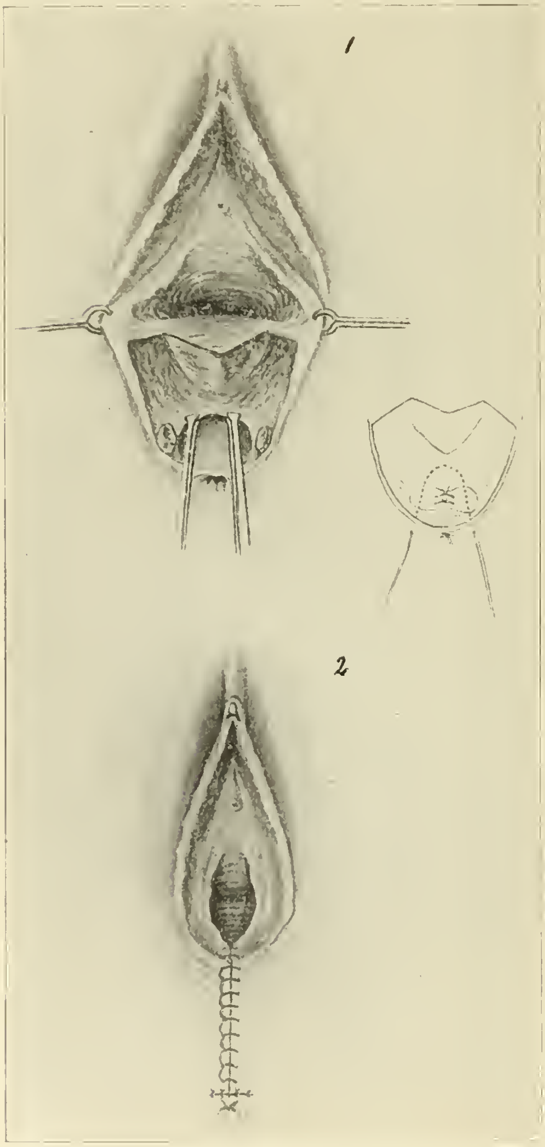

Fig. VI.—1. Bullet forceps at level of myrtiform caruncles; Allis forcep at angle of rectal laceration; denudation completed; end of sphincter exposed; rectum has been sufficiently separated from vagina to bring angle of laceration below sphincter. Small figure shows sphincter muscle sutured and splint suture of silkworm gut in place. 2. Operation completed.

1527 Spruce Street.

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[7] Baldy, J. M.: American Journal of Obstetrics, 1896, Vol. 33, pp. 481-488; and 1897, Vol. 35, pp. 81-86.

UNUSUAL CASUALTIES

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During the various battles of the European war some peculiar accidents, such as would not be seen ordinarily in civil life, have been met. These cases are more of historic than of surgical interest.

One man at the Vesle had the knee joint opened up clean by schrapnel in such a way as to remove the patella almost entire except for the severing part of the ligament. Another man had a bit of shell embedded firmly in the lower eyelid causing no disturbance at all to the eyeball, and it was shelled out by force.

One man at the Argonne was found with a 30 caliber cartridge from a machine gun in the right heel with just the point appearing at the wound of exit. He was walking toward the hospital and said he had just been shot. The cartridge had entered the outer side of the foot, passed back to splinter the os calcis, and was extracted by forceps. At the same place a man was treated at the Regimental Aid Station who had the foreskin pierced by an airplane machine gun cartridge without doing any damage to the glans penis. Several peculiar injuries to the genitalia, such as these and laying bare the testicles, were seen.

A number of cases of evisceration were handled in which wounded intestines were exposed on the abdomen by transverse wounds. These men did not seem to suffer the amount of shock proportionate to the extent of damage.

Another peculiar class of cases were the face injuries. One man had the left cheek pierced through, evidently by a shell fragment from shell fire back of the lines, and no further injury to other structure. Cases of shell injury to the tongue alone were seen also. In one case, a hospital corps man had the median corner of the left median incisor broken off and no further damages to take him off duty, occurring in the same cave in which two of his comrades were killed outright. There was a case also in which one of the bicuspids was shattered and there was considerable bleeding from the mouth. It was found that a part of the tooth was embedded in the tongue and this was extracted without further trouble.

One of our hospital corps men was thrown into convulsive movements by four shells bursting nearby; he suffered dislocation of the jaw, which was reduced with a snap.

A case of incised wound of the cornea occurred from explosion of a cartridge in a fire after armistice had been signed and the war had ceased. Another accident occurred in which a soldier was buried by falling in of the brick roof of a shotup building; after he was dug out he was found to have only a lacerated finger and lacerated wounds of the scalp.

Sometimes bits of stone and similar fragments are embedded in the flesh by an explosion of shell, and it is not always parts of shell that rain down on the helmet and body, but frequently stones and dirt, as the result of a shell dropping nearby.

There was a peculiar case of a rifle bullet going through the bridge of the nose from right to left without serious damage. Such cases show the good fortune the patient enjoys in being saved by a "hair's breadth" from possible death.

There were evacuated from the hospital two cases in which the rectum had been laid open, and the patients were in general good condition. A man was brought with an injured leg and was dressed; at the same time it was noticed that his coat was torn, and embedded in his torn testament in his upper left pocket was a good-sized piece of hand grenade, the chest having suffered no bodily injury. Another man was inspected on the firing line after fire had ceased and on inquiry said his hip felt as though he might have been struck, but was going to pay no attention to it. On examination it was found that a bullet had penetrated through his left buttock.

It has been noticed that in some of the severe injuries, not head, a delirium was present. Also it is on observation that some of the severely gassed men did not appreciate what had happened to them. Men were repeatedly found suddenly stricken dead with no evidence of violence, possibly from severe "wind contusion" from heavy shells, or high concentration of phosgen.

These cases remind us also of the seeming freaks played by shelling in which a dugout is demolished just after the occupants have left in time to escape. You frequently hear of such incidents.

Chest wounds, injuries to the extremities and head injuries occur in which a slightly different angle of incidence would have changed the picture from one of what seems to be a providential or miraculous contortion to one of instant death.

France, Nov. 16, 1918.

HEALTH INSURANCE *

ISADORE STERN, ESQ.
PHILADELPHIA

By the act of July 25, 1917, a commission, known as the Health Insurance Commission, was established for the commonwealth of Pennsylvania to investigate five propositions: (1) Sickness and accidents of employees and their families not compensated under the provisions of the Workmen's Compensation Act; (2) the adequacy of the present method of treatment and care of such sickness and injury; (3) the adequacy of the present methods of meeting the losses caused by such sickness or injury either by mutual or stock insurance companies or associations, by fraternal or other mutual benefit associations, by employers and employees jointly, by employees alone, or otherwise; (4) the influence of working conditions on the health of employed persons; and (5) methods for the prevention of such sickness or with a view to recommending ways and means for the better protection of employees from sickness and accident and their effects, and the health of employed persons and their families in the commonwealth.

This commission, appointed in accordance with this law, was authorized to report its findings to the legislature of 1919 and make suitable recommendations.

After diligent study, covering a period of over a year, the commission asked for an extension of two years' time to properly set forth its findings to the legislative session of 1921. So there can be nothing for the physicians to be concerned in just now except to cooperate with the commission in a serious study of the questions involved.

While I am on this point, I should like to suggest that the Philadelphia County Medical Society appoint a committee to assist and work with the Health Insurance Commission so that the report of the commission may be just, fair and accurate from the physicians' standpoint as well as from the standpoint of other groups or organizations likely to be affected by legislation covering the subject of health insurance.

It is generally recognized by all the commissioners that the real scope of the commission is to prevent, as far as possible, losses among employees generally by reason of diseases contracted in the course of employment from other than traumatic origin.

The Workmen's Compensation Law, as at present enacted, covers industrial accidents traceable to external causes.

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* Read before the Philadelphia County Medical Society, Feb. 13, 1919.

Health insurance, on the other hand, attempts to conserve the health of the wage-earning classes against illnesses to which they are subject. These diseases may be what are known as occupational diseases, they may come from old age, they may come from a cold contracted in the course of employment or while walking to and from the shop or factory or office, or from any illness which will result in a loss of earnings. Some illnesses may be hereditary, others are constitutional ailments that have nothing to do with the manner or form of employment.

At the present time, most large concerns have a system of mutual beneficial associations whereby the payment of a small sum each week from the wages of the employees, which is accumulated into a fund, certain sick benefits and medical treatment are vouchsafed to the employees. In these cases, as a rule, the physicians are selected by the associations, sometimes by the employers where the employers contribute to such a fund, and the members of such associations are obliged to seek the assistance of the physician so designated.

My personal observation has been that even though members of such beneficial associations have had a designated physician to attend to their ailments, they invariably preferred to go to a physician of their own personal choice and declined to avail themselves of the opportunity afforded by the beneficial association.

Would the State, therefore, be more successful in compelling such individuals to go to such designated physicians?

Assuming that the State were to adopt a system of health insurance, how would these physicians be selected?

Would you have them elected by a popular vote or would they be selected by the State Health Department, each for a certain district and what would their compensation be?

In this connection, I may state that the compensation of physicians is like the compensation of any other skilled artisan or mechanic; it depends on the individual ability of the physician and the demand for his services.

If it is complained by people who are in favor of a system of state health insurance that some of the physicians who treat the poor are mediocre, even in some instances that they are malpractitioners, or that they are hasty and careless; would the certainty of compensation by the state benefit or aggrevate the situation? Moreover, there is a certain class of people who are constitutionally opposed to work and who sometimes give illness as an excuse. This class is known as the malingerer.

What percentage of illness is genuine? Who has the statistics and how can anyone figure the cost of insurance?

Then there is another form of illness which requires attention; that is, the question of dental care. Dr. Osler said: "There is not one single thing more important to the public in the whole range of hygiene than the hygiene of the mouth. If I were asked to say whether more physical deterioration was produced by alcohol or defective teeth, I would unhesitatingly say, defective teeth." Assuming this to be true, and Dr. Osler is a noted and trustworthy physician worthy of belief, could you go to the extent of making dental care compulsory? Would you put the necessity of dental operation on a par with vaccination?

Then there is the question of the length of time to pay benefits as well as the length of time to accord medical treatment, and medical treatment again may be subdivided into as many branches as there are medicines. Supplies must be furnished, drugs must be procured, sanitariums and hospitals must be constructed and a thousand and one other materials will be required that will assuredly cost fabulous sums.

Could, therefore, such a proposition as health insurance be inaugurated at a reasonable cost?

The commission is in the dark on this question. Insurance organizations probably have such data but the data of these companies is based on the results of medical examination and the only persons insured are those who may be able to pass the physical test required by the insurance company. On the question of hospitals and dispensaries it should be noted that in the first place, at the present time, the Commonwealth of Pennsylvania spends at least $10,000,000 or more per annum in the way of appropriations for the upkeep of hospitals and dispensaries and that this cost is in turn borne by the people of the Commonwealth of Pennsylvania who pay it into the State treasury in taxes of one form or another. It should be said that most of these taxes are paid by corporations and by the more substantial people and that if this cost were to be removed and taken care of out of a health insurance fund, it might be that the weight of the taxes now paid by the wealthy people would fall on the people really intended to be benefitted by the system of health insurance.

Averting again to the question of physicians' fees, care must be taken not to stifle individual ambition, activity or incentive. From time immemorial the physician has been paid by his patient. Would the adoption of a system of health insurance place all physicians on the payroll of the State at a standard subsidy?

If physicians are to be standardized, why not inventors and lawyers and painters and singers? Surely all of these classes of persons in their way add to the general comfort, well-being and pleasure of the state.

Of course, I do not desire to belittle the high calling of a physician. The first person I call when I am sick is a doctor. When I am well I am kept well by remembering and regarding my physician's advice and by seeking healthful amusement. We get as much conservation of health from the people who add to the enjoyment of the community as we do from the physician. In fact, we get more, because the majority of us are well and are kept well. This is due to the mistaken policy of not going to a physician unless we are sick. It might be that the general average of health could be increased if the state formulated a policy of having patients call on physicians to keep them well instead of curing them if illness develops.

Should, therefore, health insurance in its greatest estate not compel a regular periodical examination by a physician instead of supplying aid after the person is sick? The draftsman of this act, if it is finally decided to have it put on the statute books, might well consider such a proposition as a periodical visit to the doctor or no benefits.

It is said that dispensaries are, after all, charitable institutions intended for the poor. Could health insurance eliminate dispensaries or is there any magic about the term that would elevate a dispensary in public estimation?

No person that I know of is able to dogmatically lay down rules which will answer the series of questions that arise in the mind of any fair-minded man in contemplating this subject; because, no matter how vast or intricate and how well it sounds in theory, it cannot be successfully accomplished unless it is started on a commonsense basis by people who understand.

From my reading on the subject I find that health insurance is in operation in most of the European countries. It was first promulgated in Germany. It spread to Austria and Russia and Denmark and last taken up in England, although in England it was first introduced immediately before the war and really has not had an opportunity of justifying itself one way or the other. The mere mention, however, of these facts invariably leads one to the conclusion that in all of these countries conditions among the laboring classes and the poor are vastly different from what they are in the United States of America; that these countries are now in the throes of revolution and that a great period of reconstruction is on. What the cause for these dissatisfactions and contentions is historians of the future may be able to reveal. The fact remains, however, as a matter of common sense that, if a system of health insurance were in effect in these countries and the people were still dissatisfied with their conditions, then health insurance was not a panacea for all ills and did not cure all.

Personally, I do not believe in giving the laboring man anything because he does not want things that way. I believe in allowing the laboring man to take what he earns. Equality of opportunity after all is the best thing that any government can offer to its citizens.

The general proposition of health insurance may seem alluring and it may be theoretically correct but how practicable can it be made?

I do not believe in innovations or fads simply for the sake of making a change or for the purpose of trying something new. I would rather cling to the rocks of experience which form the foundation of human welfare.

I am well aware of the fact that the establishment of a state health department has greatly enhanced and promoted the health of the community. But the establishment of such departments did not require compulsory individual payments of premiums, nor did those departments interfere with physicians or their patients, nor did they compel surgical operations or long courses of treatment in hospitals. On the contrary, such departments, as a rule, usually did preventive work. This brings to my mind the recent epidemic of influenza which, I understand, caused the death of more people than were killed or wounded in the great war. Its cost, from a medical standpoint, for physicians fees and for drugs is incalculable.

Would health insurance have aided such a situation?

If a system of health insurance can be devised which will meet the happy requirements of satisfying both the employer and employee and not humiliate the employee by compelling him to go to a physician he does not care to go to or by taking a form of treatment at a public sanitarium or state institution, and if such a health insurance system can be inaugurated at a reasonable cost, and if such a health insurance system will not stifle individuality among physicians, and if such a system of health insurance which will not be paternal in its aspect can be devised, then let us have health insurance. Health insurance on any other basis would be contrary to common sense.

119 South Twenty-Second Street.

LEST WE FORGET

THE PHYSICIAN'S RESPONSIBILITY *

A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals.

DUTY OF MEDICAL SOCIETIES *

In order that the dignity and honor of the medical profession may be upheld, its standards exalted, its sphere of usefulness extended, and the advancement of medical science promoted, a physician should associate himself with medical societies and contribute his time, energy and means in order that these societies may represent the ideals of the profession.

LIMITS OF GRATUITOUS SERVICE *

The poverty of a patient and the mutual professional obligation of physicians should command the gratuitous services of a physician. But institutions endowed by societies, and organizations for mutual benefit, or for accident, sickness and life insurance, or for analogous purposes, should be accorded no such privileges.

CONTRACT PRACTICE *

It is unprofessional for a physician to dispose of his services under conditions that make it impossible to render adequate service to his patient or which interfere with reasonable competition among the physicians of a community. To do this is detrimental to the public and to the individual physician, and lowers the dignity of the profession.

OVERDUES

From all appearances a very large percentage of members will soon be classified under the above heading.

If you do not pay your 1919 dues until after March 31 you not only disqualify yourself for several benefits of membership, but you also increase very materially the current expenses of your county, state and possibly your national society. In assuming this obligation you no doubt had the best of intentions, but in procrastinating in the discharge of said obligation you deliberately impose needless trouble on those who serve you.

At this writing but ten county societies have remitted for 90 or more per cent. of their members. Help to place your society in the 100 per cent. class by mailing today your check for 1919 dues. You know how you thrill to the exceptional patient who responds by return mail to your statement for services. Treat your county society officers to the same delight—make it now.

MORIBUND

Can you conceive of a component county medical society being revived after an interim of five fall and winter months without a called meeting of any variety? Such a state of affairs exists in at least one county in this state—no meeting since last September and none called to date (February 25). Primarily, the fault lies with the secretary and other officers of the society in question; secondarily, with the members of the society; and, finally, no doubt, with this office, inasmuch as we are so late in discovering the true state of affairs. Immediately on said discovery, however, we have written to each and every member of the moribund society, as well as to the district councilor. It is hard enough to practice medicine intelligently within a live organization, but to pass through these last few months without an opportunity to exchange experiences with one's fellow practitioners must indeed be hopeless.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported up to February 22:

ALLEGHENY: *New Members*—N. J. Resmer, 315 Brownsville Road, Mt. Oliver Sta., Pittsburgh; A. A. Schlegel, 1118 Negley Ave., Pittsburgh. *Death*—Leon Hirsch (Jeff. Med. Coll., '96) in Mercy Hospital, Pittsburgh, February 9, aged 42.

BEAVER: *New Member*—J. B. Ague, Beaver Falls.

BERKS: *New Member*—R. J. Haws, 1050 Perry St., Reading.

BUCKS: *New Members*—George B. Hennigh, Perkasie; Harry L. Thomas, Langhorne.

BUTLER: *New Member*—R. M. Christie, Petersville (Northampton County).

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* From Principles of Medical Ethics of the American Medical Association.

CENTER: *New Member*—Joseph P. Ritenour, State College (by transfer from Fayette County).

CHESTER: *Death*—Jane R. Baker (Woman's Med. Coll. of Pennsylvania, '92), recently in West Chester.

DAUPHIN: *Death*—William M. Shull (Jeff. Med. Coll., '85) in Hummelstown, July 2, aged 50.

DELAWARE: *New Member*—Albert L. Usset, 712 West Third St., Chester.

FAYETTE: *New Member*—A. S. Hagan, 54 S. Gallatin Ave., Uniontown.

LACKAWANNA: *New Members*—William Van Buren Sarine, Jermyn; B. H. Jackson, 516 Spruce St., Scranton.

LUZERNE: *New Member*—S. W. Blazejewski, 46 S. Washington St., Wilkes-Barre (by transfer from Schuylkill County).

MONTOUR: *New Member*—J. P. Shearer, Danville. *Death*—Burgess Allen Gibson, Lieutenant M. C., U. S. Army (Jeff. Med. Coll., '13), of Washingtonville, from the effects of wounds received in action November 3, aged 30.

PHILADELPHIA: *Deaths*—William Charles Griggs (New York Univ. Med. Coll., '90) in Philadelphia, February 2, from heart disease, aged 52; Ralph Edwin Shrom, Assistant Surgeon, Lieutenant, U. S. N. F. R. (Jeff. Med. Coll., '04), in Philadelphia, January 26, from pneumonia following influenza, aged 36; Albert A. G. Starck (Jeff. Med. Coll., '83) in Philadelphia, January 30, from influenza, aged 66.

SCHUYLKILL: *New Member*—Franklin P. Barnd, Hegins.

SNYDER: *New Member*—E. C. Williams, Port Trevorton.

SOMERSET: *New Member*—Peter L. Swank, Elk Lick.

SULLIVAN: *Removal*—William H. Randall from Laporte to Avis (Clinton County).

VENANGO: *New Members*—Paul Bruner, Oil City; Audley W. Rickett, 209 Harriott Ave., Oil City.

WARREN: *New Members*—Clarence A. Bonner, Patrick Henry Weeks, State Hospital for Insane, Warren.

PAYMENT OF PER CAPITA ASSESSMENT

The *per capita* assessment for the year 1919 has been received from component county societies since January 24, as acknowledged on page 324 of the February JOURNAL, as given below. The figures in the first column indicate the county society numbers and those in the second column the state society numbers.

1919				
1/27	Cumberland	10–11	654–655	$ 5.50
1/27	Adams	7–9	656–658	8.25
1/27	Clinton	1–7	659–665	19.25
1/27	Bucks	33–53	666–686	57.75
1/27	Somerset	6–12	687–693	19.25
1/28	Berks	4–41	694–731	104.50
1/28	Center	7–18	732–743	33.00
1/28	Venango	1–18	744–761	49.50
1/29	Bradford	1–20	762–781	55.00
1/29	Luzerne	17–28	782–793	33.00
1/30	Butler	1–17	794–810	46.75
1/31	Somerset	13	811	2.75
2/1	Montgomery	81–90	812–821	27.50
2/3	Franklin	23–30	822–829	22.00
2/3	Sullivan	1–10	830–839	27.50
2/4	Susquehanna	14–18	840–844	13.75
2/4	Northumberland	22–26	845–849	13.75
2/4	Clarion	15–24	850–859	27.50
2/4	Berks	42	860	2.75
2/4	Northampton	42–66	861–885	68.75
2/6	Somerset	14	886	2.75
2/6	Dauphin	50–65	887–902	44.00
2/6	Montour	1–16	903–918	44.00
2/6	Warren	1–50	919–968	137.50
2/7	Clarion	25–26	969–970	5.50
2/7	Center	20–21	971–972	5.50
2/8	Wayne	6–11	973–978	16.50
2/10	Blair	18–31	979–992	38.50
2/10	Snyder	1–12	993–1004	33.00
2/10	Luzerne	29–68	1005–1044	110.00
2/10	Mifflin	6–23	1045–1062	49.50
2/11	Monroe	1–5	1063–1067	13.75
2/11	Somerset	15	1068	2.75
2/11	Lackawanna	1–6, 8–13, 15–32	1069–1098	82.50
2/12	Columbia	16–21	1099–1104	16.50
2/13	Union	15	1105	2.75
2/13	Allegheny	1-6, 8, 10–71, 73-75, 77–115	1106–1216	305.25
2/14	Clarion	27	1217	2.75
2/14	Venango	19–20	1218–1219	5.50
2/14	Schuylkill	1–26	1220–1245	71.50
2/14	Fayette	1–69	1246–1314	189.75
2/15	Clinton	8–9	1315–1316	5.50
2/15	Greene	21	1317	2.75
2/15	Beaver	1–25	1318–1342	68.75
2/17	Luzerne	69–96	1343–1370	77.00
2/17	Montgomery	91–106	1371–1386	44.00
2/17	Westmoreland	18–45	1387–1414	77.00
2/17	Wayne	12–19	1415–1422	22.00
2/18	Bucks	54–62	1423–1431	24.75
2/18	Cumberland	12–13	1432–1433	5.50
2/18	Clarion	28–29	1434–1435	5.50
2/18	Berks	43, 44, 46–53	1436–1445	27.50
2/19	Columbia	22–24	1446–1448	8.25
2/19	Union	16	1449	2.75
2/19	Lackawanna	33–41	1450–1458	24.75
2/20	Adams	10–13	1459–1462	11.00
2/20	Lehigh	29–42	1463–1476	38.50
2/21	Bradford	21–30	1477–1486	27.50
2/21	Wyoming	8–13	1487–1492	16.50
2/21	Mifflin	24	1493	2.75
2/22	Delaware	48–53	1494–1499	16.50
2/22	Union	17	1500	2.75
2/24	Monroe	6	1501	2.75
2/24	Venango	21	1502	2.75
2/24	Fayette	70–86	1503–1519	46.75

COMMUNICATION OF SYPHILIS TO WIFE AN ASSAULT

The Court of General Sessions of Delaware holds, as the jury was charged in this case, that a husband may commit an assault and battery on his wife, notwithstanding the married relation. A wife in confiding her person to her husband does not consent to cruel treatment, or to infection with a loathsome disease. A husband, therefore, knowing that he has such a disease, and concealing the fact from his wife, by accepting her consent, and communicating the infection to her, inflicts on her physical abuse, and injury, resulting in great bodily harm; and he becomes, notwithstanding his marital rights, guilty of an assault, and indeed, a completed battery. If the accused knew he was infected with syphilis, and his infection was unknown to his wife, the intent to communicate the disease to her by having sexual intercourse with her may be inferred from the actual result. If the jury should find the evidence that the accused, knowing that he was infected with a venereal disease, and, without informing his wife of the fact, had sexual intercourse with her after such knowledge had been communicated to him, and thereby infected her with the disease, their verdict should be guilty. If the jury should find that the accused, during the period he had sexual relations with his wife, did not know that he was infected with a venereal disease, and that he did not communicate with his wife after being informed that he was infected, their verdict should be not guilty. The verdict was guilty.—State vs. Lankford (Del.), 102 Atl. R. 63.

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

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Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

MARCH, 1919

ARE YOU RECEIVING YOUR JOURNAL REGULARLY?

It is no small matter to keep a mailing list of more than seven thousand names accurate, and when once an error appears upon the printed mailing sheet it is not likely to be corrected unless the individual concerned calls attention to the error. We have each month nearly one hundred changes to the mailing list, not to mention additions and removals on account of death, etc.

An effort has been made to send THE JOURNAL to each physician in the Service, and now that so many are returning home it will accommodate all parties concerned if each member returning from military service will send his present address direct to the editor.

Now that the office of the secretary is separate from that of the editor it will save time and insure prompt and accurate attention if all changes of address are sent direct to the Pennsylvania Medical Journal, Athens, Pa. At the same time notify the secretary, Dr. Walter F. Donaldson, 8103 Jenkins Arcade Bldg., Pittsburg, Pa.

LEGISLATION AT HARRISBURG

It is now evident that there will be no attempt made to pass any health insurance laws this year. The Commission to Investigate Health Insurance has been continued for another two years. Various amendments to the Workmen's Compensation Law have been proposed, and our readers are requested to keep in touch with Dr. Frederick L. Van Sickle, chairman of the Legislation Conference of the Medical Profession of Pennsylvania, who may be addressed, care of State Department of Health, Harrisburg, Pa.

LIGHTS ON ALL VEHICLES

A bill has again appeared in the Legislature requiring all vehicles on public roads to carry a light at night. Similar bills have failed repeatedly in this state because of the opposition of farmers and others. With the constantly increasing crop of automobiles, all of them lighted front and rear, the vehicle without lights is a menace not only to auto traffic but to itself. Farmers who drive automobiles realize this quite as much as others. There have been many costly collisions because lights were not used, where the motorist was in no way at fault, and there will be more unless all traffic on the public roads displays some kind of illumination at night.

The motorist, and most physicians use cars, is anxious to avoid being involved in any collision which might result in injury to person or property with the possibility of a resulting damage suit. On the other hand, the driver of the horse-drawn vehicle is the one most apt to be injured and it is he who would derive the greatest protection from the enforcement of such a law.

ARMY STATISTICS

The report of the Surgeon-General, U. S. Army, to the close of the fiscal year, June 30, 1918, is now off the press. Within its 755 pages is more material of great importance that can be packed into a brief note—for instance, the review of health conditions in the Army since 1820, records summarized by decades. In this century of sanitary science the death rate has fallen from 33.6 to 4.5. Analyzed according to race, for the decade 1908 to 1917, this rate shows highest in colored troops (9.02); lowest in Porto Ricans (4.42); white troops show second, 5.44; then the Philippine Scouts at 4.89.

The leading diseases causing death even as late as 1916-1917 show tuberculosis first, 14.2 per cent.; syphilis sixth, 4.4 per cent. The discussion of venereal diseases is introduced by the significant remark:

> The venereal diseases constitute a group of great social as well as medical interest. Communicated, for the most part, by illicit sexual intercourse and chiefly by prostitution, their prevalence constitutes a rough measure of the failure of education and other social influences to secure control of the sex impulse on the part of the male population. Since instruction as to the importance of such control is generally diffused, the prevalence of venereal disease is a partial measure of the inability of a part of the population to inhibit its sex impulse. Moreover, since the amount of prostitution can be diminished by repressive measures, the frequency of the venereal diseases in any region is partially influenced by the completeness of such repressive measures.

For the year 1917 alone, the time lost from active service because of venereal diseases, is equal to 2,399 years. Gonorrhea accounts for 1,415 years of this total.

The report does not deal out wholesale charges against civil communities. In fact, it specifically points out possible fallacies of hasty argument; such, for instance, as that which overlooks the fact that diseases found on admission to camp frequently are of long standing and therefore indicate not the *infections* of any week but the *detections* of that week.

> For example, in the latest report at hand, over ten times as many new admissions were from the (civilian) group. . . . It is clear that one is not justified in saying that relatively ten times as many civilians become infected with venereal disease in a week as do men in camp.

And again, comparative statistics must be carefully taken for exactly what they claim to be. A man has pneumonia; he cannot travel, and so does not get into army records at that time. But venereal diseases do not prevent entrainment. Hence the greater chances of detection at an expert physical examination. No exact statistics of the relative prevalence of venereal diseases in military and civil life will be possible until the civil population has records and medical examinations comparable with those of the Army.

Meantime, remains this fact: Sometimes 10,000 cases of venereal diseases a week were found in new recruits. Whatever its exact numerical status may ultimately prove to be, there seems at present no especially soothing unction for the souls of civil communities.

In comparison with those of European armies the records apparently are more to the advantage of the United States than appears from simply the figures. The mean annual admission rate for gonorrhea is in Europe 36.24 per thousand; in the United States, 82.47. But whereas in the United States the records include infections often of long standing, in Europe they comprise only current infection of men in the service.

The Army's efforts to control venereal disease since 1909 culminating in the present military-civil campaign, are briefly sketched. A paragraph on the relative frequency of venereal disease in rural and urban recruits was discussed in the December issue of this paper.

REPORT OF PROVOST MARSHAL-GENERAL

The Second Report of the Provost Marshal-General to the Secretary of War covering the operation of the Selective Draft from May 18, 1917, to December 20, 1918, has just been published by the Government. The report occupies 621 pages filled with most interesting and valuable matter. The following paragraphs and tables taken from the report show in a small way something of the scope of the report and the magnitude of the work done under the direction and supervision of General E. H. Crowder, Provost Marshal-General.

Nineteen months of war have brought to a successful conclusion our conflict with the Central Powers. Entering the struggle at a time when the prospect was decidedly dismal, we witnessed German success advance to an almost overwhelming allied defeat, until, throwing our hastily assembled forces into the balance, we saw impending catastrophe turn into brilliant and decisive victory.

We are now too close upon the events accurately to assess them. How great a part American Selective Service played in the drama of the world war, history alone can tell. That a new and untried scheme of selection could succeed at all was to many doubtful; that it should attain results beyond the fondest dreams of its most ardent supporters was unbelievable. To enroll for service over 24,000,000 men; to mobilize a selected Army of more than 2,800,000, a million of them within the space of 90 days; to have presently available for military duty 2,000,000 additional fighting men; to classify this vast group of man-power in the order of its military and industrial importance, so as to preserve the domestic and industrial life of the Nation, to speed up war-time activities, to maintain them in a status of maximum efficient production, and to pave the way to a speedy return to normal peacetime pursuits while recruiting the full fighting strength of the Nation — these are results which would be instantly rejected as impossible did not the actual facts stand as irrefutable testimonials of their accomplishment.

Our fighting forces were supplied with men from Class I, and from Class I only. From the ordinary walks of civil life, 2,810,296 men were drawn and placed in the military service. But the deferred classes have remained intact. When hostilities closed, there remained in Class I a supply of fighting men sufficient to meet every military necessity.

I call your attention to the fact that mobilization under the selective plan began on September 5, 1917. At the end of the first 14 months over 2,750,000 men were put in camp, and 14½ months of selective mobilization would have raised the total to more than 3,000,000 men.

Every type of man desired by the Army, from the soldier qualified for full line service to the highly skilled specialist of limited physical qualifications only, was furnished. Of specially skilled men furnished, I mention only a few — bricklayers, expert timbermen, accountants, locomotive engineers, autogenous welders, draftsmen, butchers, cabinetmakers, meteorologists, chemists, veterinarians, and watch repairmen.

Since Class I was the class the members of which were most easily spared from civil life, it followed that the end of the whole classification scheme, viz., the preservation of the domestic and industrial spheres, was thus, in a large measure, attained. The Class I quota basis regarded the Nation in war, not as 48 separate, jealous states, but as a firmly united whole, contributing to our fighting forces in a manner which would least disturb peace time normality, locally and nationally.

Voluntary Enlistment.—But while the classification and mobilization under the selective service law were proceeding, the Army, the Navy, and the Marine Corps were recruiting under the old system of voluntary enlistment. Enlistment in the Army, as to registrants, was discontinued on December 15, 1917; but recruiting in the Navy and Marine Corps, as to registrants, and in the Army, as to nonregistrants, continued until August 8, 1918, when all voluntary enlistments were ordered discontinued.

Such recruiting played havoc for a time with the orderly process of selection. During the period in which enlistments were permitted, 1,300,00 men were withdrawn from the available source of supply, upon which the selective service organization relied. The volunteer plan took no heed of economic value; it received as readily the man indispensable to production as it did the industrially worthless. We were presented with the strange anomaly of a nation which had intrusted its man power to a selective organization, at the very breath turning over the same resources to an indiscriminate withdrawal by the agencies of recruitment. The task of accounting became highly difficult; an equitable or efficient apportionment of man power between the military and industrial realms was impossible. Recruitment disturbed every phase of the scientific administration of our task and impaired the efficiency of the whole organization.

I would be remiss in the performance of a public duty did I not, at this point, accord the credit which is so richly due to the war governors and their several State headquarters, the 155 district boards, the 4,648 local boards, the 1,319 medical advisory boards, the 3,646 legal advisory boards, as well as their auxiliary agencies of Government appeal agents, examining physicians, boards of instruction, and other civilian and enlisted assistants, upon whom has fallen the great strain of the task that has been accomplished. No labor has been so onerous and no demand so exacting but that it has been performed with a zeal and dispatch that are unparalleled in the history of free peoples. Without adequate compensation, often at great financial sacrifice, the members of the local administrative organizations have bent themselves to their tasks with a devotion that spells the imperishability of our democratic institutions.

I am certain that no great national undertaking was ever begun which depended so utterly upon faith in a people for its execution; and undoubtedly no faith has ever been more completely justified and no confidence more abundanty rewarded.

As the day of registration arrived, it was apparent that every human being in the United States had been made fully aware of its meaning, and the occasion took on all the appearance of a public festival.

TOTAL REGISTRATION

Total Registration	Number	Per Cent. of Total	Per Cent. of Total
Total of all three registrations..........	24,234,021	100.00	100.00
June 5, 1917-Sept. 11, 1918...............	9,925,751	40.96	
June 5-Aug. 24, 1918....................	912,564	3.77	
Sept. 12, 1918............................	13,395,706	55.27	
Alaska, Hawaii and Porto Rico (3 series)	325,445	......	1.34
U. S. without territories (3 series)........	23,908,576	100.00	98.66
June 5, 1917-Sept. 11, 1918...............	9,780,535	40.91	
Sept. 12, 1918............................	13,228,762	55.33	
June 5-Aug. 24, 1918....................	899,279	3.76	

VARIETIES OF DEFECTS DISQUALIFYING FOR MILITARY SERVICE, FROM FEB. 10, 1918, TO OCT. 15, 1918

Cause for Rejection	Total Rejections by Local Boards and Camp Surgeons		Rejected by Local Boards and Placed in Group D (Series X)		Accepted by Local Boards for Groups A or C, but Rejected by Camp Surgeons (Series Y)		Discarged from Army after Acceptance by Local Boards and Camp Surgeons (Series Z)	
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
Total for all causes........	467,694	100.00	255,312	100.00	172,000	100.00	40,382	100.00
Alcohol and drugs.........	2,007	0.43	231	0.09	1,238	0.72	538	1.33
Bones and joints........	57,744	12.35	33,283	13.04	19,623	11.41	4,838	11.98
Developmental defects (hgt. weight, chest measurements, muscles)..........	39,166	8.37	27,293	10.69	11,538	6.71	335	0.83
Digestive system..........	2,476	0.53	1,586	0.62	448	0.26	442	1.09
Ears............	20,465	4.38	12,100	4.74	6,455	3.75	1,910	4.73
Eyes............	49,801	10.65	32,775	12.83	15,367	8.93	1,659	4.11
Flatfoot (pathological).....	18,087	3.87	3,342	1.31	13,234	7.69	1,511	3.74
Genito-urin'ry:								
Venereal......	6,235	1.33	2,042	0.81	2,744	1.60	1,449	3.59
Nonvenereal..	6,309	1.35	3,054	1.21	2,226	1.30	1,029	2.55
Heart and blood vessels	61,142	13.07	36,470	14.28	19,268	11.20	5,404	13.38
Hernia.........	28,268	6.04	8,473	3.32	18,353	10.67	1,442	3.57
Mental deficiency........	24,514	5.24	14,417	5.65	6,293	3.66	3,804	9.42
Nervous and mental disorders........	23,728	5.07	10,945	4.29	7,319	4.26	5,464	13.53
Respiratory:								
Tuberculous..	40,533	8.67	27,559	10.77	10,792	6.27	2,182	5.40
Nontuberculous........	7,823	1.67	3,081	1.21	3,483	2.02	1,259	3.12
Skin............	12,519	2.68	12,207	4.78	213	0.12	99	0.25
Teeth...........	14,793	3.16	4,314	1.69	9,952	5.79	527	1.31
Thyroid........	8,215	1.76	3,151	1.23	3,697	2.15	1,367	3.38
Tuberculosis of parts other than respiratory..........	4,136	0.88	3,853	1.51	159	0.09	124	0.31
All other defects	14,314	3.06	12,671	4.96	1,373	0.80	270	0.67
Cause not given.........	25,419	5.44	2,465	0.97	18,225	10.60	4,729	11.71

COMPARISON OF GROUNDS OF DEFERMENT

Comparison of Grounds of Deferment	Number	Per Cent. of Registrants	Per Cent. of Deferment, 1918
Total registrants June 5. 1917 to Sept. 11, 1918....................	10,679,814	100.00	
Total deferments on all grounds.	6,973,270	65.29	100.00
Physically disqualified..........	521,606	......	7.48
Deferred on other grounds.....	6,451,664	......	92.52
Alienage......................	1,033,406	......	14.82
Specific vocations............	76,497	......	1.10
Necessary agricultural and industrial vocations........	364,876	......	5.23
Dependency....................	3,903,733	......	55.98
Military and naval service....	619,727	......	8.89
Morally unfit.................	18,620	......	0.27
Undistributed in reports......	434,815	......	6.23

The volunteer spirit prevailed over all. Every citizen seemed to feel that (in the words of the President's announcement for that day) "he owed it to himself and to his country to make the day a unanimous demonstration of loyalty, patriotism and the will to win."

At this point a tribute is due to the American Medical Association. From this association came the suggestion for medical advisory boards and cordial assistance in their selection. The Journal of the American Medical Association, with a circulation of 66,000 copies, has been a valuable medium of information between this office and the medical men who discharged the duties of the profession to the Government through the draft. The medical profession has responded and served in a devoted manner that has received universally favorable comment. It is gratifying to note the part which the association has taken in thus assisting to raise our great Army, as well as its valuable contribution to the war generally.

Medical advisory members served without compensation. The exacting details incident to the examination of tens of thousands of registrants, drawn from every precinct of the United States, have been accomplished with a patient, prompt precision that impels me to express my personal appreciation for their loyal services to our Government, through their cooperation with this office. It is keenly appreciated that their duties were an additional burden to busy lives, and were not publicly recognized either by uniform, or rank, or the applause of the multitude. They continued at their tasks unflinchingly, often far into the night, with only conscience as their commander, and with stern duty as their censor. To them, whose services were so cheerfully, assiduously and efficiently rendered, the Nation owes a debt of gratitude.

STATE NEWS ITEMS

MARRIED

DR. WILMOT G. HUMPHREY, Elkland, and Miss Jeannette M. Shirtz, Elmira, January 22.

DIED

DR. THOMAS A. STRASSER (Univ. of Pennsylvania, '67) in Reading, February 16, aged 73.

DR. EDWIN M. HERBST (Jefferson Med. Coll., '78) in Friedensburg, February 17, aged 68, after a long illness.

DR. HENRY H. BOBB (Univ. of Pennsylvania, '68) of East Greenville, in Philadelphia, February 12, aged 79, from heart disease.

DR. ALBERT S. SHERRICK (Western Reserve Univ., School of Med., Cleveland, '85) in Alverton, February 13, aged 56, from injuries received when he was struck by a street car a week previous.

DR. PHILLIPE SHARPLES HALL (Hahnemann Med. Coll., Philadelphia, '91) in Philadelphia, January 16, aged 52.

DR. CLAUDE MATTHEW BARTON (Univ. of Louisville, Ky., '01) in Homestead, January 17, aged 41.

DR. FRANK M. STONE (Jefferson Med. Coll., '75) in Shenandoah, December, aged 60.

DR. ROBERT WINFRIED MCCARTER (Univ. of Pittsburgh, '96) in Pittsburgh, January 10, aged 57.

DR. JAMES PATTERSON BURD (Univ. of Pennsylvania, '71) in Philadelphia, December 16.

DR. JOHN A. KRESSLEY (Hahnemann Med. Coll., '89) in New Tripoli, January 19, aged 56, from pneumonia.

ITEMS

DR. MULFORD K. FISHER, Philadelphia, has resumed practice after an attack of croupous pneumonia.

SMALLPOX cases at Swarthmore and at Butler have been taken charge of by the state department of health.

DR. J. M. ANDERS, Philadelphia, is the author of verses "To a Wild Rose" in the *Medical Pickwick* for February.

Lieut.-Col. George Morris Piersol, Philadelphia, after ten months in France, arrived in New York, February 9.

Major Albert P. Francine, Philadelphia, who was in charge of a hospital on the front line since June, arrived in New York February 22.

The Philadelphia General Hospital (Blockley) is now given up to a war reclamation hospital under the charge of Major A. C. Bachmeyer.

Dr. Luther C. Peter, Philadelphia, has been elected to a professorship in Ophthalmology in the Polyclinic Section of the University of Pennsylvania.

The Medical Society of Franklin County held its fiftieth annual meeting at Hotel Washington, Chambersburg, January 21. (See County Society Reports.)

Lieut. Alfred N. Bergstein, Pottsville, has received the distinguished service cross "for extraordinary heroism in action near Exermont, France, Oct. 8, 1918."

Lieut. Leo P. Gibbons, Scranton, one of the first physicians in Lackawanna County to join the colors, has returned to Newport News and expects to be mustered out of service soon.

Dr. Joseph S. Neff, Narberth, was on February 3 appointed by Governor Sproul a member of the Advisory Board of the State Department of Health for four years, from June 15, 1918.

Dr. W. Gilbert Tillman, Easton, was on February 11 acquitted of the charge of involuntary manslaughter brought against him by a brother of a patient dying from pneumonia following influenza.

The Berks County Medical Society held its annual meeting on January 14, at which time Dr. Wilmer Krusen, Philadelphia, addressed the society on "Present Day Problems for the Medical Profession."

Capt. George M. Laws, Philadelphia, who was on the staff of Base Hospital No. 20 (University of Pennsylvania Unit) landed in New York February 5, and will resume his teaching duties at the University.

Death Rate for October.—There were 30,000 more deaths than usual in the state during October due to influenza, the total number of deaths being 47,595 for the month. The births for the same month were 18,605.

The Philadelphia Clinical Association on February 3 elected the following officers: President, William Duffield Robinson; vice president, Edward J. Moore; secretary, Charles S. Barnes; treasurer, William McKeage.

The Philadelphia Hospital for Cripples receives $10,000 by the will of Mrs. Frances W. Thorpe, and one-half of the principal of another $10,000 after the death of a niece of the testatrix. Hahnemann Hospital also receives $5,000.

Fresh Air for the Health Department.—The state department of health is setting an example to other departments. At 11 a. m., 3 and 4 p. m., the windows are opened and every employee takes exercise for four or five minutes.

Dr. W. W. Serrill, Kellettville, Forest County, sustained a fracture of the right leg and other injuries by the overturning of his automobile on January 17, when he remained pinned under his car for twenty-one hours before being discovered.

Dr. James A. Babbitt, Philadelphia, who has been in France since May, 1917, with the Friends' Reconstruction Unit, has been chosen a member of a Red Cross Commission to go to Germany to help the 1,200,000 Russian prisoners there to get home.

Changes in Department of Health.—Dr. S. Leo Gans has been made chief of the genito-urinary dispensaries, succeeding Dr. John Laird, who has been made chief of the laboratory dispensaries. Dr. Howard L. Hull has been promoted to chief medical inspector.

The Frederick A. Packard Lecture for 1919 of the Philadelphia Pediatric Society, was delivered by Col. Victor C. Vaughan, United States Army, at the College of Physicians on February 11, the title of the address being "The Relation of Measles and Influenza to Pneumonia."

The Obstetrical Society of Philadelphia on February 16 elected the following officers: President, F. Hurst Maier; vice presidents, Stephen E. Tracy and Alfred Heineberg; secretary, Edward A. Schumann; secretary pro tem, Charles S. Barnes; treasurer, William E. Parke.

Lieut. John B. Critchfield, Lock Haven, who was attached to the United States Army Base Hospital at Brest, is now in the Reconstruction Hospital at Lakewood, N. J., receiving treatment for the effects of injuries sustained when a shell struck an ambulance in which he was serving, injuring his hip.

Dr. Torrance John Hanlon, Donora, who enlisted soon after graduating, receiving a commission as lieutenant and later promoted to captain, was, about two months ago, decorated by King George of England for conspicuous bravery, and is now in a government hospital near Pittsburgh for a rest cure following his service overseas.

Dr. Sidney A. Slater, Oil City, has removed to Worthington, Minn., where he becomes superintendent of the Southwestern Minnesota Sanatorium. He was formerly in charge of the Grandview Sanitarium, Oil City. Dr. Slater, who has been active in both county and state society, will retain his membership in the Venango County Medical Society.

Lieut.-Col. Theodore LeBoutillier, Philadelphia, has been awarded the medal of honor by the French government for his services during the epidemic of influenza, which attacked the soldiers and civilians of France last September. Dr. LeBoutillier, after spending nearly a year at Camp Greenleaf, Ga., was made chief of the medical service of Base Hospital No. 57 at Lycee, France.

Dental Students at the University of Pennsylvania can now receive their degrees in seven years. Every dental man in the university must have a degree of Bachelor of Arts before he gets his diploma from the dental school, but the two courses are now combined so that a student can take the senior college work the same year he takes the freshman dental subjects. A similar arrangement exists between the college and the school of medicine.

Vaccination Case in Court. Two teachers in Montgomery Township, Cumberland County, were prosecuted for refusing to admit an unvaccinated pupil. Magistrate John G. Palmer convicted the defendants, imposing a fine on one of $20, or in default to be imprisoned in the county jail for fifty-nine days, and on the other a fine of $90, or imprisonment for sixty days. The case has been appealed to the county courts and will come up in April.

State Board of Charities.—Governor Sproul on February 3 sent to the senate the names of the following appointees as members of the State Board of Public Charities: Louis Wolf, Dr. Daniel J. McCarthy, Howard B. French, Dr. Peter F. Moylan, Philadelphia; Judge Isaac Johnson, Media, and William Price, Pittsburgh. The hold-over members of the board are Norman McLeod, Philadelphia; Patrick C. Boyle, Oil City; Lanning Harvey, Wilkes-Barre, and Dr. John A. Lichty, Pittsburgh.

Base Hospital No. 34, was the first one of the six Philadelphia hospitals to be demobilized. This hospital was the Episcopal Hospital Unit, was located at Nantes, France, and was officially relieved of its duties last month. Dr. Astley P. C. Ashhurst, who went overseas as director of the unit and with the rank of major, was twice promoted, returning as colonel. The unit reached France in February, 1918.

Dr. James Tyson, president of the Medical Society of the State of Pennsylvania in 1911 and 12, died at his home in Philadelphia, February 21, aged 78. During all of Dr. Tyson's medical career he was in some way connected with the Medical Department of the University of Pennsylvania of which he was dean from 1876 to 1889. The Journal for October, 1912, contains a full page photograph of Dr. Tyson and a sketch of his profession life, in which the statement is made: "During his teaching years, our retiring president has instructed more students in medicine than any living teacher, and probably more than one who has ever lived."

Medico-Chirurgical Reopened.—The University of Pennsylvania Graduate School of Medicine reopened the Medico-Chirurgical Hospital on Saturday, February 15, when Philadelphia physicians were invited to a private inspection of the plant. The hospital will be employed for general hospital work and has been equipped throughout with new medical and surgical instruments of the most recent development. There will be departments of medicine, surgery and obstetrics. Although it is to be used as a general hospital it is intended to become a center of instruction and clinical work for graduate students of the University of Pennsylvania. The department of medicine is in charge of Dr. James M. Anders; surgery, Dr. Francis A. Mantz, and obstetrics, Dr. Wilment hospital near Pittsburgh for a rest cure follow-100 beds.

GENERAL NEWS ITEMS

Dr. Amalio Gimenoy Cabanas, professor of general pathology, University of Madrid, is the new prime minister of Spain.

Lieut. Benjamin Davis, Medical Corps, U. S. Navy, of Plymouth, Pa., has been convicted of receiving bribes and sentenced to three years imprisonment.

Dr. Pang Yuen Tseo (pronounced Say-o) is the first Chinese woman ambulance surgeon New York has had. She divides her time between internship and outdoor ambulance work for Bellevue Hospital.

Alexis Carrel, Major, M. C., U. S. Army, who has been serving with the French army in the Montdidier section, has returned to New York and resumed his work at the Rockefeller Institute for Medical Research.

The Harrison Act as Amended by the new War Revenue Act will be mailed any druggist, physician, dentist or veterinarian who will send a postal request therefor to "Mailing Department, Parke, Davis & Company, Detroit, Mich."

The Manitoba Medical Association at a recent meeting entered a resolution in the minutes of the society that the restrictions placed on the sale and use of alcohol in that province had resulted in the moral, physical and economic betterment of the people. All of Canada is now dry except the province of Quebec, and that province goes dry May 1.

General Crowder Reappointed.—The nomination by President Wilson of Major-Gen. Enoch Crowder to be judge advocate general of the army for another term of four years was confirmed by the Senate February 13. Since the United States entered the war General Crowder has been provost marshal general under special detail by the president.

Uniform Office Hours for Physicians.—The Sommerville, Mass., Medical Society has issued a notice systematizing the practice of medicine so the physicians may be able to see more patients. They have dropped the morning office hours and have adopted uniform hours from 2 to 7 p. m., excepting Sundays and holidays. Office hours are reserved for office patients, the other hours being occupied in house visits.

Council on Pharmacy and Chemistry.—During February the following articles have been accepted for inclusion with New and Nonofficial Remedies: Biologically Reactive Food Proteins, nonproprietary articles; Tannin Albuminate Exsiccated-Merck, Merck and Company; Cow's Milk Allergens-Squibb, Egg Allergens-Squibb, Wheat Allergens-Squibb, E. R. Squibb and Sons; Neoarsaminol, 0.15 gm. tubes, 0.3 gm. tubes, 0.45 gm. tubes, 0.6 gm. tubes, 0.75 gm. tubes, 0.9 gm. tubes, Takamine Laboratory.

Proposed Medical School at Khartoum.—The *British Medical Journal* states that the Gordon Memorial College, now in its seventeenth year at Khartoum, is doing fine work in spite of the European War cutting into its personnel. It is now proposed to found a medical school in connection as a memorial to Kitchener. About $45,000 has already been collected for the purpose in the Sudan, mainly by subscriptions from natives. Cerebrospinal meningitis was present in the Sudan last year. It is stated that owing to the difficulty of keeping guinea-pigs alive there, the Wassermann test could seldom be applied, but this difficulty has at last been overcome.

A Joint Influenza Committee has been created to study the epidemic and to make comparable, so far as possible, the influenza data gathered by the government departments. The members of this committee, as designated by the Surgeon-General of the Army, the Surgeon-General of the Navy, the Surgeon-General of the Public Health Service, and the director of the Census are: Dr. William H. Davis, chairman, and Mr. C. S. Sloane, representing the bureau of the census; Dr. Wade H. Frost and Mr. Edgar Sydenstricker of the Public Health Service; Col. D. C. Howard, Col. F. F. Russell and Lieut.-Col. A. G. Love, United States Army; Lieut.-Com. J. R. Phelps and Surgeon Carroll Fox, United States Navy.

The American Journal of Care for Cripples, which is the only special periodical in English on provision for the disabled, became a monthly with its January issue, according to announcement by its editor, Douglas C. McMurtrie. Although dealing extensively with the rehabilitation of the invalided soldier, the *Journal* is in no sense a war product, as it is now entering on its eighth volume. This periodical will contain in the future the studies, translations, and abstracts produced by the research department of the Red Cross Institute for Crippled and Disabled Men, material which has hitherto appeared in a special series of publications. The *Journal* also continues as the official organ of the Federation of Associations for Cripples.

W. W. Palmer Succeeds J. H. Long on the Council on Pharmacy and Chemistry.—At the recent meeting of the board of trustees, C. L. Alsberg, chief of the Bureau of Chemistry, U. S. Department of Agriculture; John Howland, professor of pediatrics, Johns Hopkins University Department of Medicine, and Henry Kraemer, professor of pharmacognosy, University of Michigan, College of Pharmacy, were reappointed to serve on the Council on Pharmacy and Chemistry for a further period of five years. The trustees appointed W. W. Palmer, associate professor of medicine at the College of Physicians and Surgeons of Columbia University to fill the vacancy caused by the death of Prof. J. H. Long, who had been a member of the council since its organization.

Hope for Blind.—"Victory Over Blindness" was the title of an address by Sir Arthur Pearson, the blind founder and director of St. Dunstan's Hotel for Blinded Soldiers, London, England, before a mass meeting at the Century Theater in New York City, February 4. Sir Arthur described his work in restoring blinded British soldiers to self-support. Lieut.-Col. James Bordley, Baltimore, in charge of work for blinded American soldiers and sailors and director of the Red Cross Institute for the Blind, told of the work being done at Evergreen, Baltimore, for men of the American Expeditionary Force who lost their sight in action. The meeting was presided over by Douglas C. McMurtrie, director of the Red Cross Institute for Crippled and Disabled Men, under the auspices of which organization the meeting was held.

"Evergreen," as General Hospital No. 7 is popularly known, is the place to which the soldiers, sailors and marines are sent who have lost their sight as a result of the world war. The institution has a double function: (1) That of a hospital for the men while they are in need of medical care; and (2) a school in which they are fitted to "carry on" in the battle of life in spite of blindness. This hospital and school is located in Guilford, one of the beautiful suburbs of Baltimore, on the 100 acre estate of Mrs. T. Harrison Garrett, who has generously loaned the property to the government for the use of the blind men. The property was officially taken over by the government on Nov. 15, 1917. Owing to the congestion of transportation the actual construction of the government buildings was not begun until April 6, 1918. The first blind man was admitted the same month, the buildings which were already on the estate being used for residental purposes.

Editor of Hospital Journal Goes to South America for Methodist Centenary.—Hospitals are to be built in the five republics of South America, which, by interdenominational agreement, have been placed under its supervision, by the Methodist Episcopal Church as a part of its Missionary Centenary program the purpose of which is to raise $120,000,000 (in connection with the southern branch of the denomination) for world upbuilding and the extension of missionary work. There is at present not one hospital in the entire South American continent under the direction of any American Mission Board. There is one union dispensary in Rio de Janeiro—that is all. The Methodist Foreign Mission Board has engaged Miss Charlotte A. Aikens, editor of the *Trained Nurse and Hospital Review* (New York) to tour Argentina, Uruguay, Chile, Bolivia and Peru to study the needs of the field and the conditions which prevail there. After her report has been received the number and location of hospitals and health stations to be built in the five republics as part of the centenary program will be announced.

Health Almanac.—One of the almanacs of the Sixteenth Century bore the following title: "Pronostycacyon of Mayster John Thybault, medycyner and astronomer of the Emperyall Majestie, of the year of Our Lorde God MCCCCCXXXIJ., comprehending the iij partes of this yere, and of the influence of the mone, of peas and warre, and of *the sykenesses of this yere,* with the constellacions of them that be under the vij planettes, and the revolucion of Kynges and princes, and of the eclipses and comets." We are still prognosticating on the subjects of "Peas and warre, and the revolucions of Kynges and princes," but the United States Public Health Service in its *Health Almanac for 1919* is not content with chronicling our various ills, but preaches prevention of the "sykenesses of this yere." In addition to the monthly calendar of health hints and notable events, this almanac discusses such topics as the following: Control and prevention of infectious diseases, as pneumonia, common colds, tuberculosis, infantile paralysis, typhoid fever, smallpox, trachoma, hookworm disease, and venereal diseases; disposal of human excreta; importance of clean drinking water; care of the teeth; care of milk in the home; what the United States Public Health Service is doing to protect the health of the people of the United States. Copies of the 1919 almanac may be obtained free on application to the United States Public Health Bureau, No. 3 B Street, S. E., Washington, D. C.

BULLETIN EXCERPTS

BULLETIN—SCHUYLKILL

From Our Retiring President, Dr. J. L. Warne

In looking back over the past year's work, we were handicapped by two things:

1. Many active members of the society went into the service. This caused more work to be thrown on others and necessarily caused their absence.

2. The influenza epidemic during October and November burdened the doctors, and medical society matters could not be given attention. However, by close cooperation with the secretary and members of the committee, we were able to overcome many difficulties. I wish to thank the secretary for his active and willing cooperation at all times, also I wish to thank the several committees.

Since the war is at an end, we can look forward to the home coming of the absent members of our society. Let us all cooperate and make this a banner year; let us do what we are asked to do by the president of the society, and if we are placed on a committee take an active part, take an interest in the committee work, make an effort to be present at the committee's meetings, so that the program will be the best we have ever had, make a point to bring your neighboring doctor with you to each meeting, do not let some personal difficulty arise which will prevent bringing him along. The success of any enterprise is due to the spirit given it by its members. The success of the society will depend on you and your brother member. Let there be no excuse this year for your absence. Now since conditions are again returning to normal, the watchword for the coming year, under the leadership of President T. L. Williams, should be "Forward"—"Progress."

THE WEEKLY ROSTER—PHILADELPHIA

Has It Accomplished Its Object?

Some months ago when numbers of physicians responded to the call of their country and laid aside the livelihood derived from the practice of their profession, the burden of its continuance was left with those who remained behind; one of the obligations assumed was the care of the professional work and, as far as possible, the making of a just financial return to the doctor who was called away. In the light of some eighteen months' actual working out of the several plans proposed by the several county societies to accomplish this result candor compels us to state that all these plans have been faulty in that there has been no way yet devised to in any way require a just accounting of these trust funds. From every county in the state comes the same report; patients taken care of, money collected, but no return —or only a trivial return—made to the doctor who should have received his pro rata share of the compensation.

From time to time the *Roster* has called attention to the ineffective working of the agreement of the Philadelphia County Society; this plan was heralded as "the Philadelphia idea"; it was altruistic, to be sure, but not practical, and the result has been anything but a success in most cases.

The latest exposition of this one-sided agreement comes from the Lackawanna County Medical Society in a carefully audited report of their Clearing House for War Doctors' Business, and it is astounding in its frankness. The number of doctors who contributed to the Clearing House was eighteen, and the amount so contributed by them for a period of seven months (June to December, inclusive) was $607.37.

This sum was divided among fifty physicians who were away and sacrificing life and limb for their country; in other words, each physician, if the amount had been averaged, would have received the princely sum of $12.15 for seven months' collections, or $1.75 per month. But as it was paid out to the several beneficiaries by the Clearing House the highest amount received for the seven months by any one doctor was $204.90, the lowest being $1.26, while twelve received nothing.

Some of the county societies, it is a pleasure to state, make a better showing than the above, but figures are not at hand and definite amounts can not be stated. Of Philadelphia County no estimate can be made, as we have no clearing house to look after collections and disbursements; but judging from reports from some who are in service and from others who have returned, it is a very serious question whether our county has done better than Lackawanna; most of our members have received no return whatever, and others but a small amount. With us the question of distribution was a matter of conscience with each member, and it is feared that the "wee small voice" has been so very feeble in many cases that it has been entirely extinguished by the jingling noise made by the collected coin in the pocket.

It is beginning to look as though each county society would be compelled, to protect its own good name and intention, to establish "adjustment committees" to consider matters pertaining to the distribution of fees collected, and the proper return of patients to their former physicians.

THE MEDICAL REPORTER, CHESTER

A careful examination of a patient as practiced by the ordinary country doctor (which most of us are) has heretofore consisted of a physical examination of the chest and abdomen, a chemical and microscopic examination of the urine and possibly a blood examination. These must always be the basis of any examination, but of recent years many other methods and tests must be used before we have a right to claim that the data necessary to a diagnosis have all been obtained. We recently had a patient, aged 35, who began to have convulsive seizures, accompanied by unconsciousness. The usual tests were made and no physical basis for the attack was discovered. A consulting neurologist was called in, who suggested a roentgen-ray examination of the head and teeth, and an Abderhalden test of the internal secretions. These were made, and nothing found except that the pancreatic secretion was deficient. The patient was given pancreatic extract and the attacks continued as before.

The friends of the patient were anxious to try osteopathy, which was done with no result. He was then taken to a professor of medicine in one of our leading medical schools who made a "diagnostic study" of the case. This included an opaque meal to determine the position and function of the abdominal organs and a fractional gastric analysis, another examination of the urine and blood, and another roentgen ray of the teeth and an investigation by a neurologist. Nothing has been found that will at all account for the attacks, and we are compelled by a process of exclusion to fall back on the original suspicion of epilepsy.

If all these tests are necessary in the medicine of the future the country doctor must do one of two things, either he must qualify and equip himself to do these things himself or he must become merely a clearing house for the distribution of his patients to the proper specialists. If he lives near enough to a properly equipped hospital and is permitted by the authorities to use it he may have the work done under his own care, but where this is not practicable he must go on in the old way—do the best he can and guess the rest. In the case detailed above this would have been just as useful to the patient and far less expensive. But you never know, and the patient would certainly have drifted beyond his care and probably into the hands of quacks.

THE WEEKLY ROSTER, PHILADELPHIA

An Opportunity

The *Roster* mailing list that goes to the printer about this time for revision calls for the removal of some two hundred names; these are names of members of the Academy of Stomatology, as this society will not in the future announce its meetings in the *Roster*. This is a matter of deep regret, and it seems as though a representative society has withdrawn its association and patronage from the medical profession, and whether or not it is a wise move only the future can disclose, as, in the present era, when all efforts are being directed to consolidation and unification of interest and aims it seems most unwise to bring forward a movement of this character. Strenuous times are ahead, and unless the several departments of medicine work in harmony it will certainly mean disaster to us as a whole. Legislative and other matters are presenting themselves that will demand an unbroken front to forestall trouble for us. That the professions of medicine and dentistry have much in common and should work in conjunction is self-evident; that harmony should be strengthened by association; but, hereafter, the dental branch of medicine will run along without full knowledge of what the doctors are doing in this locality and it is doubted whether this will be to the interest of many of the dentists, especially of the younger men, who must benefit by a broader contact.

Some weeks ago one local society took a step in the right direction by admitting to membership dentists and pharmacists in its neighborhood; it appears to have been a good move. It is suggested that at this time all of our societies consider seriously this matter, broaden or amend their by-laws, and invite the dentists to affiliate with them. By modifying our programs to thus meet changed conditions each society would be a distinct gainer thereby. It seems that this would be a good time in which to try out this consolidation of interest and professional need.

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgement must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Roentgenotherapy. By Albert Franklin Tyler, B.Sc., M.D., Professor of Clinical Roentgenology, John A Creighton Medical College; Attending Roentgenologist, St. Joseph's Hospital, Bishop Clarkson Memorial Hospital, Ford Hospital, Immanuel Hospital, Douglas County Hospital and Lord Lister Hospital, Omaha, Neb.; Member, American Roentgen Ray Society; Fellow, American Medical Association. 162 pages, with 111 illustrations. St. Louis: C. V. Mosby Company, 1918. Cloth, $2.50.

OFFICE OF THE SURGEON GENERAL

No...............
V. D. 35

TREASURY DEPARTMENT
United States Public Health Service
DIVISION OF VENEREAL DISEASES

AN APPEAL TO PHYSICIANS FOR COOPERATION IN THE FIGHT AGAINST VENEREAL DISEASES

The war turned the spotlight on many things heretofore neglected or avoided. No disclosures were more startling than those showing the destructive inroads of venereal disease on the health and efficiency of the Army and Navy.

From the time the United States entered the war in April, 1917, to September, 1918, the loss to the Army from venereal disease represented 2,295,000 days of service.

Now the war is over!

The Nation is on its way to a peace basis.

Interest begins to turn from the fighting efficiency of the Army to the reconstructive power of industry; and as it turns, this striking fact stands out: *All venereal diseases in the Army were caused by conditions in civilian life. The Army and Navy, as organizations, do not tolerate prostitution.*

TESTIMONY OF THE ARMY

Immediately following the declaration of war, the Army Medical Department organized to cope with venereal disease, and one of the first points emphasized by its Surgeon-General was that each individual case must be treated under competent medical supervision until cured. He laid special emphasis on two points.

1. The ineffectiveness of self-treatment by the use of simple or patent remedies.
2. The danger of quack doctors, who advertise to treat so-called private diseases.

Nineteen months of war have shown conclusively the value of proper methods of treating venereal cases in the Army.

MAINTAIN INDUSTRIAL EFFICIENCY

For the protection of the fighting men as they return home, and to maintain maximum industrial efficiency, venereal disease among the civilian population must be kept under control. There is the same necessity for proper methods of treatment as existed in the service. *Self-treatment and quackery must go.*

RESPONSIBILITY OF PHYSICIANS

Physicians have a large share in the responsibility of protecting the Nation in this emergency, by giving their best scientific attention to individual venereal disease cases. Industry does not have a nation-wide medical organization similar to that of the Army. The responsibility rests on the individual physician.

Each member of the medical profession should understand the seriousness of statements frequently made that a majority of physicians refuse to treat venereal diseases, and that many of those who do treat them are careless in their methods of treatment.

This is probably one reason for the continued spread and existence of venereal disease, for which the medical profession must assume responsibility. As a result of the refusal by a large part of the profession to give the problem proper study and attention, venereal diseases have become a headliner for quackery and self-treatment, neither of hich is safe or effective.

Venereal disease is a scourge which menaces the industrial efficiency of the Nation, and the United States Public Health Service believes that physicians should understand the seriousness of the situation and their responsibilities in meeting it.

COOPERATION OF DRUGGISTS

Thousands of retail druggists are responding to the request of the Government that they discontinue the sale of remedies for the self-treatment of venereal disease. They have agreed to direct customers to competent physicians or venereal clinics. Signed cards from druggists, assuring the Government of their support of this movement, are coming in by hundreds on every mail. Physicians are asked to cooperate by agreeing to have their prescriptions for venereal cases filled at high-class drug stores. This will result in a cooperative interchange whereby druggists will not attempt to treat these cases and physicians will not enter into competition with druggists in selling the medicines.

WEIGH THESE QUESTIONS

The Government asks each member of the medical profession what he is going to do in this emergency. Will each venereal case be given the care and attention which it demands as a serious menace to the health and efficiency of the community, or will quackery and ineffective self-treatment be permitted to help keep alive the sources of venereal disease infection?

The answer of the medical profession to these questions will determine largely whether venereal diseases among the civilian population are to be brought under control.

Rupert Blue,
Surgeon-General, United States Public Health Service.

A LETTER FROM CAPTAIN BRAUDE OF JOHNSTOWN

While the letter, part of which is given below, was not intended for publication, the editor feels that it will be enjoyed by readers and that there is no impropriety in publishing the same.

Montigny, France, Dec. 25, 1918.

Dr. C. L. Stevens, Athens, Pa

My Dear Doctor:—It is a long time since I received your letter, but it has always been one thing or another, and I consequently have not written you before.

This has been a wonderful experience for any man, especially for we medicos, in very many ways. In our daily work at home suffering in others has been the usual thing—or they would not have sent for us to help them. We have all seen the various phases of suffering, and the fortitude, or lack thereof, with which they stood their burden. As interns we were first surprised at the pain a little woman or some lesser built man withstood, and the quick dropping down of some big husky, on just cutting a little infection. We got used to that, or the former, and more or less expected it later in private practice when painful things of any kind were to be attempted. One of the greatest things it has been my privilege to witness has been the fortitude, the smile, the unflinching attitude of our American soldiers over here. Being up front these past months, before the Hun cried stop, I've had the opportunity to see and help what little was possible, usually a great many cases, and I have never ceased to wonder at that smile, that belittling of their wounds, that unselfishness, which invariably attended a casualty of our boys. I know that besides the wonderful work they did, the one thing I'll never fail to see, to hear, to remember, most vividly, will be that very quality. In civil practice one does not have that, it is not there like it was over here. As I go back and forth from this point, way up above Dun-sur-Meuse, near Sedan, where we were when the armistice was signed, and where we are today, I cannot cease to look at places we have come through behind the doughboys, and keep on looking as frequently as we pass them, at the seemingly impossible attainments they achieved. I often think, with real pity, that these same boys' parents, wives, sweethearts, and others cannot see what they have done, for they surely cannot grasp it by merely reading of it or pouring over maps; it cannot be done unless one sees with their own eyes. Most of them won't be able to come, and very few of us will be able to tell those at home even after we return.

A medical officer's part is hard to analyze, depending upon what service fortune attached him to, but I have yet to hear one called "Dugout Mike," as some officers in practically every other branch of service have been termed. Never have I heard that term applied to a medical officer in the field. To remember that I belong under that classification fills my heart with pride and joy and adds a beat or two to that minute. I have seen editorials and articles in the *Public Ledger,* which I see sometimes, about medicos, their heroic work at home during the epidemic of influenza, the loss of their lives; I feel that the whole profession has added another brilliant achievement to its nobility, for all of us could not come over here, that is certain.

I could go on for pages, but time will not permit. The last of October, 1918, I was notified of my promotion to captain, and that as you may know was very welcome. I, myself, was fortunate to get by until November 10, the day before the armistice, when a shell struck too near and by some prank I had my left hip dislocated and generally bruised, but with medicos everywhere, a few whiffs of chloroform, and they had it in place and took me back to my station, for I did not think I needed to go to a hospital. My major took me down to headquarters and I stayed in bed while the rest celebrated the end. I was sorry to get even that on the last day, but I did not forget how fortunate I was to get just that, nor could I forget the doughboy's form. I tried to emulate him and it was easy after a few days. Later I returned to my post in an ambulance and directed my work as well as conditions permitted.

On account of mentioning my injury, this letter will have to go through the central records office and will consequently be delayed. Of course you will understand this is a personal letter and not for publication in the Pennsylvania Medical Journal.

Respectfully,
Bennett A. Braude,
Captain, M. C., Third Pioneer Infantry, Amer. E. F.

BOOK REVIEWS

THE SURGICAL CLINICS OF CHICAGO. Volume II, No. 6 (December, 1918). 63 illustrations; pp. 1089-1292. Philadelphia and London: W. B. Saunders Company.

This book completes the second annual volume of this serial journal of clinical contributions from Chicago hospitals. It contains the Contents and Index of the six bimonthly issues for 1918; and shows that that year's output was nearly 150 essays from forty-eight lecturers. The variety and timeliness of the discussions, the excellence of illustrations, and the practical nature of the teaching show a lively interest in present-day surgery. It makes a Philadelphian proud of the enterprise and editorial acumen of one of its medical publishing houses, and envious of the surgical teachers of Chicago who have such a splendid vehicle in which to present to the medical world their views on surgical problems. Where are the clinical teachers, where the skilled editor, and in what city, the energetic publisher to give the same high quality of instruction and a similarly valuable surgical annual from Philadelphia hospital services? Shall the Middle West have no competition from the Atlantic Seaboard in surgical progress? Philadelphia surgeons arise, and speak! J. B. R.

A TEXTBOOK OF PHYSIOLOGY: FOR MEDICAL STUDENTS AND PHYSICIANS. By William H. Howell, Ph.D., M.D., Professor of Physiology, Johns Hopkins University, Baltimore. Seventh Edition Thoroughly Revised. Octavo of 1059 pages, 307 illustrations. Philadelphia and London: W. B. Saunders Company, 1918. Cloth, $5.00 net.

The author's many years' experience in teaching physiology has enabled him to produce a book in which the physician and the student will find things explained, the highest function of a textbook. It is especially well adapted to the needs of the student of medicine who wishes to make a more extended study of the subject. In this, the seventh edition, the author has been guided by the idea that has made so successful previous editions and reprints, that is, to provide for the general practitioner a thoroughly helpful and practical physiology; the straightforward and positive elaboration of the various topics being a feature of the book. His description of the normal processes and an occasional outline of pathologic variation is good. The section on physiology of digestion and secretion is particularly rich in its consideration of the various parts; the study of the glandular action and the function of the excretory organs is succinctly expressed. Digestion and absorption are presented in a thorough study, together with excellent tables of the important study of metabolism of foods; the chemical problem in this division is made very clear. In the chemical work in the fields of nutrition, of heat production and regulation, the author is explicit and full in the important advance of chemistry and physics. The physiology of reproduction is clearly described; the absence of discussion of discarded theories is notable. The author has produced a most valuable book, attractive in subject, text and form, which can be depended on as authoritative. A. F. M.

THE SERIOUSNESS OF VENEREAL DISEASE. By Sprague Carleton, M.D., F.A.C.S. 67 pages, 26 illustrations. New York: Paul B. Hoeber, 1918. Price, 50c net.

This edition is a reprint of a limited edition arranged by the author as a gift for the use of Base Hospital No. 48, and is especially adapted for distribution among patients and the laity. Speaking in the introduction of the illustrations he says: "Many of those who suffer from these diseases never show such pronounced lesions as are pictured here. Therein lies the danger. Far more dangerous than those whose pictures appear here are the men and women who have gonorrhea or syphilis without gross external manifestations to warn them and others." Again: "Can you afford to expose yourself to venereal disease? If you have contracted a venereal disease, can you afford not to take advantage of the effective treatment which modern medication offers?"

PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. DeLee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School. Third edition, thoroughly revised. Large octavo of 1089 pages, with 949 illustrations, 187 of them in colors. Philadelphia and London: W. B. Saunders Company. Cloth, $8.50 net.

The author has shown tact and talent in arranging the work so that it will fully meet the demands of the general practitioner as well as satisfy the requirements of the modern medical student. The essentials of the subject are in such form that the undergraduate can master them easily, a fact so often overlooked by authors. The work proves its value for the busy man in supplying him with the ready help in times of urgent need.

A feature of Dr. DeLee's work is the prominence given his photographs and the many conservative procedures advocated. In the part devoted to his operative technic, he greatly enriched the process with excellent illustrations and photographic views. The part on obstetrical accidents, emergencies and operative obstetrics is valuable in help and safe guidance to the general practitioner in those dread conditions; it tells in an easy way what to do and how to do it effectively, and treats in masterly plans the pressing subjects which are so often given scant consideration.

The section devoted to the pathology of pregnancy, labor and the puerperium is very explicit in giving practical assistance to the busy practitioner; the author leads one to the source of trouble, directs one how to discover the pathologic condition incident to that particular case, and helps to decide quickly what procedure is best suited and shows how to do the work successfully. The chapter on mechanism of labor is especially well prepared for the guidance of the medical man; it helps one to find the solution of the problem in diagnosis when the mechanism of labor goes wrong and considers the plans of conduct in each condition. Operative obstetrics is well presented. When operative measures are in quick demand (and he shows when they are) the technic of the most effective process is given in detail.

The author is possessed with the tact of condensing information so as to enable the busy practitioner quickly to reach the essentials of the subject. The book is the result of original investigation and observation at the bedside, the conclusion of many years of diligent work in the Chicago Lying-In Hospital which has borne splendid fruit in the conserving of human life. A. F. M.

SURGICAL TREATMENT. A Practical Treatise on the Therapy of Surgical Diseases for the Use of Practitioners and Students of Surgery. By James Peter Warbasse, M.D., formerly Attending Surgeon to the Methodist Episcopal Hospital of Brooklyn, N. Y. Vol. I. 947 pages; 699 illustrations. Philadelphia: W. B. Saunders Company.

This, the first volume, contains articles on the general principles of surgical treatment, asepsis and antisepsis, anesthesia, operating outfits, infections, results of infections, tumors and lesions of blood vessels, bones, joints and soft tissues. Under these headings the treatment is given elaborate consideration, while etiology and pathology of the lesions mentioned are more hastily touched on.

The treatment of lesions requiring surgical intervention, whether by operation alone or by the auxiliary use of medicaments, is the main purpose of the writer. Indeed, the first line of the preface gives the keynote to this encyclopedic work. The author says, "This work has been written in the interest of the surgical patient." The reviewer applauds the intent and purpose of Dr. Warbasse, because it has seemed to some of us that not a little of the surgery of the present era arouses a suspicion that the interest of the operator sometimes subordinates the real interest of the surgical patient.

Dr. Warbasse has laid out for himself a task of great dimensions when he states that it has been his object to give the surgeon means for rendering help in all surgical conditions under all circumstances. It must be confessed, however, that he has in an almost unexpected manner come pretty near reaching his ideal in the first volume now being considered. It is evident he appreciates that in surgical practice there is a surgical hazard which sometimes exceeds the pathologic hazard under which the patient is suffering. This is a worthy aim to be held in mind by modern surgeons.

In looking over the earlier pages of the first volume, the hasty reader will be apt to say this book is a mere encyclopedia containing little more than isolated statements, such as would be found in a surgical directory of names, or a catalogue of methods of treatment. As he continues the perusal, however, he is more and more struck with the laborious attention to therapeutic possibilities which is characteristic of the writer. For a time he finds what might be called undigested facts or statements with little of the personality of the author of the book indicated in words. Later, however, the author seems to lose the cataloguing spirit and to show the value of his own operative experience and his own surgical learning in the preparation of the pages. A conspicuous illustration of the forceful way in which he at times gives his view is found in the article on chloroform anesthesia. A line and a half, which he italicizes, are of sufficient value to justify the purchase of the book by every young surgeon. He says, "The danger of chloroform is that it is possible for a healthy person to inhale a poisonous dose in a single breath."

Modern methods of treating infected wounds and the recent propositions, both bloodless and operative, for managing fractures are given conspicuous space. It is evident that the author has drawn from military surgery of the European War. The illustrations are numerous and valuable. A number of them in the section on control of hemorrhage are in color. Many of them appear to have been especially prepared for this book. The reviewer feels that a very valuable addition to the working library of a surgeon has been produced by the author and publishers of this volume, which will doubtless be enhanced by the additional pages, which will be found in the subsequent portions. Dr. Warbasse is to be congratulated on his accomplished task. J. B. R.

SOCIETY

PHILADELPHIA LARYNGOLOGICAL SOCIETY

Meeting of February 5, at College of Physicians

Case of Edema of the Larynx Following Influenza.—Dr. William H. Deardorff: When seen, December 5, the young man presented all signs of air hunger. In the family history there were two cousins who died of tuberculosis. He, himself, had had pneumonia and diphtheria and was subject to frequent attacks of tonsillitis. He also had had an antrum operation. He has had a cough since eight years of age, lost 40 pounds in the past three months, and three weeks previously had influenza with a slight pulmonary cough. Patient complained of pain in the right side of the throat, was aphonic, dyspnea and cyanosis appearing at December 1. There were stiffness of the neck, tenderness of the left knee and shoulder, swelling of the arytenoids, edema of the glottis. Tracheotomy was performed. December 11 induration of the epiglottis was noted; Wassermann test was negative; smears were negative for tuberculosis, as were three successive sputum examinations. Lungs negative; roentgenogram of chest was negative. Jan. 1, 1919, the arytenoids were normal in appearance, cords adducted. January 10, there was motility of the cords with some subglottic edema. Tracheotomy wound practically closed.

Report of Three Cases of Fatal Meningitis Due to Unrecognized Ear Disease.—Dr. A. Spencer Kaufman:

Case 1.—A child, aged 4, with family and personal history negative, except for an otitis media at six months of age, the affected side not remembered. In the present illness the patient was drowsy, with an evening rise in temperature followed by an ear discharge; partly comatose; right eye could not be closed; an exudate on the left tonsil. Lungs and head were negative. On spinal puncture there came, under pressure, a clear fluid which reduced Fehling's solution. On operation the mastoid cells were found to be filled with pus, and edematous fluid which contained *Micrococcus tetragenus* escaped. Patient died four days later of pulmonary edema.

Case 2.—Female, aged 52, who six weeks before had had influenza, presented herself with bilateral S. O. M. Examination of the right ear revealed a drooping superior and posterior wall of the canal. Patient was semistuporous; there was tenderness over the mastoid; Kernig's test positive; pneumococci were found in the spinal fluid and the blood count gave 19,800 white blood cells. Simple mastoid operation with exposure of the dura, which was inflamed, was performed. Patient died two days later.

Case 3.—Patient, aged 30, seen at the hospital, complained of pain in the right ear following influenza. There was a discharge until five days before admission. Patient was depressed and semistuporous two days before admission. The spinal fluid was turbid and contained gram-negative diplococci. The mastoid was filled with a foul liquid pus. Patient died the next morning.

Nose and Throat Work at a Navy Training Camp.—Dr. William Penn Vail stated that the prime object of their work was to get men in good condition for overseas service. There were men from all parts of the country and he found the men from the South and West quite affected by the change in the climate. Tonsillitis being a common ailment, tonsillectomies, therefore, constituted a large percentage of the work. All were done under local anesthesia and he averaged about twenty-five a month. A certain percentage were done soon after an attack of quinsy with no harmful after effects. The "snare method" was used except in twenty-three cases due to recent inflammation, where blunt dissection was used. In ten cases the operation was a secondary one; thirty-one were done because of middle-ear disease with marked improvement; seventeen were done for S. O. M. with distinct improvement. Twelve cases had previous arthritic attacks and were somewhat improved. Two were done on diphtheria carriers. Of the complications, hemorrhage was the only one and in but three cases was it severe; two of these were cases of exophthalmic goiter. There were sixty-one submucous resections of the septa; in one of these was it a secondary operation. Eleven were done for chronic catarrhal otitis media. Of the other work there were thirty-seven peritonsillar abscesses and two pharyngeal abscesses, polyps, spurs, etc.

Herman B. Cohen, Reporter.

COUNTY SOCIETY REPORTS

FRANKLIN—JANUARY

The Medical Society of Franklin County convened at Hotel Washington, Chambersburg, January 21, at 6 p. m. This was the fiftieth, or golden, anniversary of the life of the organization and the meeting began with a full-course dinner in the best style of this modern hotel. At 8:25 the regular program was taken up, President Gordon presiding. The minutes of the December meeting were read and approved. The following officers were elected for the ensuing year: President, Dr. Samuel D. Shull, Chambersburg; vice presidents, Lieut. Joseph P. Maclay, U. S. Army, and Dr. LeRoy H. Saxe, Fannettsburg; secretary, Dr. John J. Coffman, Scotland; assistant secretary and treasurer, Dr. Frank N. Emmert, Chambersburg; censor, 1919-1921, Dr. A. Barr Snively, Waynesboro; committee on public policy and legislation, Drs. John W. Croft, Waynesboro; John J. Coffman, Scotland, and Dr. Samuel D. Shull, Chambersburg. The secretary and treasurer presented their reports and the auditors reported each account found to be correct.

The retiring president, Dr. John K. Gordon, delivered the annual address, speaking of the organization in its beginning and of the men who had worked and made this society possible during these fifty years; of the changes in the progress of medicine and surgery in this span of life, and how the early members had worked along the lines and methods which seemed to us indefinite and yet they were successful.

Dr. John J. Coffman read a paper entitled "The Society; an Historical Sketch." He discussed the earliest efforts in the county at organization. The first was on Jan. 4, 1825, and the organization lasted about five years. Again in 1853 organization was effected, lasted but two or three years and ceased to exist. The third effort, the organization of the present society, occurred on Jan. 19, 1868. Following the reading of this paper the thanks of the society were extended the reader. On motion of Dr. L. M. Kauffman, duly seconded and carried, the paper was ordered printed in pamphlet form. On motion of Dr. Emmert, duly seconded, it was ordered placed on the records of the society.

Historical remarks were made by Drs. Unger of Mercersburg, Gilland of Greencastle, Weagley of Marion and Capt. Theodore Peters of Chambersburg. The dinner and meeting were enjoyed by every member present. It was found to be an excellent plan, particularly with a program of this kind, to have the meeting follow the dinner.

John J. Coffman, Reporter.

LEBANON—FEBRUARY

At its meeting held in Hotel Stratford, February 18, at 3 p. m., with fourteen members present, President Rutherford in the chair, and Dr. Strickler acting as secretary, the Lebanon County Medical Society was favored with an address on "Intravenous Methods of Treating Influenza and Influenzal Pneumonia," by Dr. John L. Groh. Dr. Groh based his address on 100 cases treated by him at the Lebanon Sanitarium, with hospital advantages, diet, nursing, etc., in which the intravenous method was added to the usual symptomatic treatment. The cases ranged from mild to those in which a typhoid state existed. Among them were a number of pregnant women, two of them within several weeks of term and a number pregnant three or four months.

Intravenous injection of 2 grains of sodium iodid in 20 c.c. sterile water was given. Usually from one to two injections sufficed. In making these injections he used a Luer syringe with a 25 gage needle, choosing the median basilic or cephalic veins for points in injection. These points are sterilized by means of iodin and alcohol solution. The nurse or attendant compresses the arm above the place of administration, and the patient is instructed to work the fingers to and fro until the veins fill up. The needle is then inserted after seeing that there is no air in the solution; the piston of the syringe is then pushed back and if the needle has entered the lumen of the vein there will be a return flow of blood. The solution is then given slowly so as to continue about five minutes in giving the 20 c.c.

Excellent results were obtained in mild cases and in cases of intermediate severity, although the speaker admitted that the same results might have been attained by the ordinary routine treatment. He claimed special value for this treatment in cases of pronounced typhoid state with large areas of lung involvement, meningeal symptoms, enlarged spleen and liver. In patients who were expected to succumb, the administration of two or three injections resulted in the recovery of all but five; the temperature returned to normal in from three to seven hours, and the lungs showed great improvement. The doctor believes that in the future intravenous treatment, both as to drugs and serums, will be largely in use.

The discussion showed that in the experience of those present the toxic trend of influenza is very much in the direction of the female reproductive organs, and leads much to abortion.

A communication from officers of the state society as to possible legislation at this session of the legislature on the matter of compulsory health insurance, was read and referred to the committee on public policy and legislation with instruction to observe "watchful waiting." Another communication, from Dr. I. J. Moyer, chairman of trustees and councilors, relative to visitations on the part of district councilors, was read and referred to the secretary with instruction to write the district councilor of this district at some future time to visit this society. Dr. William Horace Means was elected a member of the society.

S. P. Heilman, Reporter.

LEHIGH—FEBRUARY

The Lehigh County Medical Society held a great meeting at Hotel Traylor, February 11. Enthusiasm reigned supreme; this has been wanting the past few years. A great many members have banded together to have only active members remain members of the society and those that are members only for the defense feature and the American Medical Association are going to be given the privilege of resigning. It seems like a reign of reformation here in Lehigh. The dues will be raised to $10, which is a very good feature; we feel the laxity in not having done it fifteen years ago. The contract practice subject received considerable attention and the society hopes in a few months to rid itself of that octopus, the contract lodge physician.

Dr. Frank S. Boyer gave an interesting and instructive talk on "Influenza," and Dr. Charles Schlesman discussed the treatment. Capt. Q. D. Arner, who spent eighteen months at Camp Meade, gave the reason of such low mortality at that camp. Lieut. F. R. Bausch, one of the volunteers to help the state rid itself of influenza, gave his experiences with the plague in and about the coal fields.

The Ladies' Auxiliary, which was organized at the annual banquet of the society, January 14, held a musicale at the home of its president, Mrs. J. M. Backenstoe, which was a grand success in every respect, and the nest egg that was laid gave the ladies considerable encouragement in their new adventure, to help the physicians purchase their new home. If you want things to move lively just get the ladies interested.

Frederick R. Bausch, Reporter.

PHILADELPHIA—JANUARY

The Philadelphia County Medical Society met January 22, at 8:30 p. m., the president, Dr. B. Franklin Stahl, in the chair.

Dr. Edwin S. Cooke read a paper on "Social Disease in the Army." The prevalence of venereal diseases in the National Army has been the cause of much anxiety to the officers on whom developed the care and training of the youths in the service. From the writer's experience during fourteen months in the venereal work of one of the largest cantonments of the army in this country he is forced to the conclusion that it is the unsuspected sufferers from venereal indiscretion, but revealed by the exigencies of military examinations, who are responsible for aspersions cast on the army and navy. The first means toward safeguarding the soldiers from infection after induction into service was the selection of remote sites for cantonments by which so much, apparently unnecessary, hardship was entailed on the soldiers and their friends. The disproportion between infections acquired before and after induction was approximately 95 to 5. Certain organizations showed a still lower percentage of incidence while in service. Of the infections acquired after induction many were of only brief duration and in all cure occurred more quickly than would have been the case in civilian life. Examination by dark field illumination was required in every case of an open lesion on the genitals, and a routine Wassermann blood test was made on every soldier admitted to the venereal wards of base hospitals. The military hospital treatment of syphilis consists of courses of arsphenamin, mercury, and in latent cases, or when tertiary lesions are manifest, iodids, which necessarily caused considerable loss of time from active duty, and entailed on the government an enormous expenditure of money for drugs and in pay for the incapacitated soldiers. It is the rule in the army not to deprive men of their pay while under treatment for venereal disease, provided they became infected prior to entrance into military service. By reason of the rigid enforcement of sanitation the incidence of ophthalmic infection was reduced to a minimum. In the writer's experience not a single case of acute gonorrheal ophthalmia arose in any of the wards under his care during the entire fourteen months of service. This record can be attributed to the admonitions of medical officers and attendants who were ever watchful lest an infected soldier should become lax and transfer the pus to his own eyes or those of others, and thereby subject the officers to reproach and a possible court martial examination on the charge of negligence. As contrasted with his civilian brother the soldier with social disease had by far the better of the argument, since he was not forced to hide his ailment, to treat himself with quack nostrums, or to prolong the malady by active exercise. It would seem, therefore, that to the civilian population attention should be directed toward lessening the social evil.

Dr. Hiram R. Loux read a paper on "Treatment of Early Stages of Syphilis." With the early diagnosis of syphilis much could be done to prevent the rapid invasion and frightful sequelae of this disease. We are all convinced that there has been a percentage of cure by control. With the arsenical preparations we find that we have a remedy more speedy in its control possibly than is mercury.

Excision of the sore does not prevent constitutional manifestations, but under careful examination the spirochetes are revealed and I feel it important that the general practitioner should be adequately equipped to make these examinations for early diagnosis. The state and municipal laboratories are available for the benefit of patients who cannot pay laboratory examinations, and I feel that if the profession at large could be induced to exercise particular care in these studies the percentage of the sequelae of syphilis could be greatly reduced. I do not believe that we do justice to our patients unless in our examinations we check up results in both the cerebrospinal fluid and blood tests. In the treatment of early syphilis there should be mapped out a régime of treatment as in tuberculosis. Why, for example, should one who has acquired syphilis be allowed to go about at will? Since we know that in early syphilis the use of alcohol often destroys the effect of treatment, why should it not be prohibited? Also, the labor of the patient should be regulated that his strength may not be overtaxed. The small and frequently repeated dose of arsphenamin I have found to give better results than the large dosage.

A paper on "Intraspinal Therapy in Syphilis," by Drs. Jay F. Schamberg and Albert Strickler, was read by Dr. Schamberg. Our results in the intraspinal treatment of syphilis have convinced us of the indispensability of the method in appropriate cases. The paper presents the history of a group of cases so treated. No conclusive deduction can be drawn giving the reason why the combined intravenous and intraspinal injections effect better results than the intravenous alone. It may be that the blood serum sets up a mild aseptic meningitis and that this process increases the permeability of the choroid plexus to the passage into the spinal fluid of the arsphenamin charged blood plasma. Other physical conditions induced by the injection of the blood serum into the subdural space may likewise be operative. Dr. Francis X. Dercum states that he has seen on many occasions improvement in the symptoms of nerve syphilis brought about by the injection into the spinal canal of plain blood serum. We believe the query whether intraspinal treatment in syphilis will achieve that which cannot be accomplished by other means is answered by the results obtained in patients in whom intravenous medication was first tried with negative or mediocre results, and in whom combined intravenous and intraspinal treatment afterward brought about brilliant results. Case 16 is a striking example of this. The patient had had numerous intravenous injections of arsphenamin associated with the use of mercury and iodids administered in approved form. Not only was there no improvement, but the patient grew progressively worse and became incoherent and irrational. Thirty-six hours after the first combined intravenous and intraspinal treatment the patient's mind and speech suddenly cleared up, and have remained normal to the present time, a period of seven months.

It is now realized that syphilis may occur without any local lesion recognizable clinically as a chancre. If it is ultimately proven that there is a special strain of spirochetes having an affinity for nerve structure, it may possibly be demonstrated that infection with such strains induces relatively little reaction in cutaneous and mucous tissues. Another plausible explanation of unsuspected syphilis is that there may be a synchronous infection of gonorrhea and syphilis, the chancre being located in the urethra. Whatever the true explanation, the fact remains that we encounter many cases of late syphilis in patients in good social standing who have no knowledge of a chancre or of any other antecedent manifestation. During the secondary stage or period of vascular diffusion of the spirochetes these parasites are carried to the central nervous system and either in a few months or years bring about inflammatory changes resulting in the exudative form of nerve syphilis, or in the course of years insidiously lead to inflammatory and degenerative types such as tabes dorsalis and paresis.

A word must be said about the limitations of intraspinal therapy. One can never hope to restore degenerated nerve tissue. Paresis cannot be cured unless treatment is begun at an extremely early stage. The most favorable time for treatment is before clinical evidence of paresis develops. A routine examination of the spinal fluid in all cases of syphilis would enable physicians to detect the preparetic stage by the spinal fluid findings. Systematic treatment at this time would doubtless prevent this unfortunate eventuality. The same statement is to a greater extent true of other forms of nerve syphilis which are more amenable to treatment. We must have numerous well-equipped institutions and well-trained men to carry out the arduous work which such systematic examinations and treatments would entail.

Dr. William H. Mackinney: The only hope of avoiding grave constitutional manifestations and involvement of the central nervous system in syphilis lies in early diagnosis and treatment. To the genitourinary man early syphilis means the initial lesion and a negative Wassermann reaction. With the advent of a positive Wassermann you have late syphilis, a constitutional syphilis which invades every organ in the body. There is only one stage of early syphilis, generally the first week or ten days of the chancre. You have constitutional syphilis at the end of three weeks and not at the end of six weeks. Every sore not interfered with by mercurial washes or powders can be examined for spirochetes by the dark field illuminator in five or ten minutes. In all medicine there is no disease in which in connection with diagnosis a period of two weeks makes so much difference as in syphilis. If you wait for a negative Wassermann test you will wait until you have constitutional syphilis. Whenever possible without mutilating the part I excise the chancre. This does not mean anything in the way of cure but that you remove a hard indurated area of infection which in all probability is not easily influenced by anything you put into the man's body at any other part of his anatomy.

Dr. Alfred Gordon: In a series of cases of neurosyphilis of great variety treated by the intraspinal method my results have coincided with those reported by Dr. Schamberg. In one case of a locomotive engineer who suffered with lancinating pain and ataxia there was entire relief following one treatment by the intraspinal method. In another case in which the patient was incapacitated he was able to resume his work after two treatments with an interval of two weeks. I have obtained moderate improvement in early stages of paresis; in the late stages, no results. When one recalls the tremendous number of spirochetes to be observed in the meninges it is not to be wondered at that their removal is practically impossible.

Dr. F. X. Dercum: In the diagnosis of all cases in which neurosyphilis is suspected we should never confine ourselves to the blood tests. The examination of the spinal fluid is an absolute necessity. In the intraspinal treatment of syphilis we drain much more freely in my own clinic, where the method is practiced most extensively, than Swift himself. It is in paresis that we have our serious problems and I have yet to see cases in which paresis has been cured. These patients may improve for a time and remain apparently well for years, but when the metabolic processes begin to fail the spirochetes get the upperhand, and then follow tabes and paresis. In the paretic case we must not forget to treat as well the general condition of the patient.

WARREN—JANUARY

The first meeting of the year was held at the residence of Dr. Edwin S. Africa with sixteen members present. The program for the year was adopted as presented by the committee. The treasurer reported that the state assessment of fifty members had been paid. Dr. R. B. Mervine gave a summary of recent views on nephritis. Clinical reports from the Massachusetts General Hospital were read and commented on. Drs. Weeks and Bonner of the State Hospital staff were present and admitted to membership. Drs. Condit, Bradshaw, Meals and Stewart are back from service, and Dr. Darling is expected soon to resume his position at the State Hospital. Drs. Condit, Stewart and Darling have been overseas.

M. V. Ball, Reporter.

VAGINAL DOUCHING A BAD HABIT

Fothergill (*British Medical Journal,* April 20, 1918) asserts that douching does harm in more than one way. It washes away the normal acid secretion; it kills the acid-producing bacteria, which are the normal inhabitants of the vagina; it kills the superficial layers of cells, and irritates the subjacent layers, it promotes hyperemia of the parts, and thus increases the quantity in the secretion, favors menorrhagia, congestive dysmenorrhea, and intermenstrual congestive pain. This applies to chronic douching.

The writer raised the question, are there any excuses for what may be called acute or subacute douching? He also points out that vaginal douching is useless in septic infection of the uterine cavity. In uterine sepsis the proper method is to dry-clean the cavity thoroughly. Gonorrheal infection of the vulva, or when the cervical canal is once infected, should not be treated by douching.

The writer points out that in the palliative treatment of cancer of the uterus, disinfectant and deodorant solutions must be used. Also when preparing a prolapse or cervix for operation, the nurse can give one or two mildly antiseptic douches every day for a week or ten days. Hot douches are often ordered, and the writer admits that the application of water at about 120 F. contracts the blood vessels and keeps them contracted for half or three-quarters of an hour. He states that it is possible for a strong-minded nurse to give a weakminded patient hot douches for several days together. On the other hand, as is usually given, the water being about 100 F., it increases pelvic hyperemia.

Fothergill gives the following practical hints:

1. Do not allow patients to douche themselves at all; but, when you have a definite reason for douching, let a nurse do it.
2. Do not use antiseptic douches unless there are germs to be killed in the vagina.
3. Remember that vulvitis is common, but vaginitis is rare.
4. When you wish to apply antiseptic lotions to the vulva tell the patient not to douche herself with the lotion, but to put it in a large bowl and sit in it.
5. Do not order hot douches (120 F.) in cases of menorrhagia and metrorrhagia.
6. Do not douche for leukorrhea, either creamy or slimy.
7. Do not douche for aches or pains in the pelvis which are not due to pelvic infection.
8. Use warm douches (100 F.) as you would use poultices or hot fomentations, in cases of pelvic infection which are neither too acute nor too chronic to be improved by the production of temporary local hyperemia.

THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

Volume XXII
Number 7
Chicago., Ill., and Athens, Pa., April, 1919
Subscription: $2.00 Per Year

ADDRESS

CHAIRMAN'S ADDRESS *

PERCIVAL J. EATON, M.D.
PITTSBURGH

It is with very great pleasure that I now welcome the members and guests of the Pediatric Section and call to order this second meeting of the section. I thank you for the honor done me in making me the first elective chairman, in succession to that man most fittingly appointed to lead the section during its first year. To him pediatrics in Pennsylvania owes a deep and peculiar debt, and his influence for the amelioration of child life in his own city, in his own state, in the country at large, has been remarkably efficient in stimulating the interest of those who could do good work along the lines of his initiation, and who have so done under his able direction. Dr. Hamill deserves much, for his service has been great and unselfish.

What has been so far accomplished by this new section of our state society, and to what must we look forward for future endeavors? If no more had been accomplished than the bringing together of men and women interested in our specialty, much would have been done, but the more intimate intercourse of the Pittsburgh meeting opened up avenues of effort heretofore untrodden. Men learned to know the personal traits and the social side of their colleagues in cities other than their own. Mutual respect and regard grew apace, and it is hoped that this meeting, and the similar ones to follow, will cement friendships and will make professional helpfulness statewide in scope, so that any pediatrist in any town in the state may know to whom he can refer patients, feeling sure that they will not only receive advice of the best sort, but will also be made doubly welcome because of the personal and professional friendship of the two physicians. To "get together" should be one of our ambitions.

What have we done this past year? Many of our members have gone into service, abroad and at home. To what extent this is wise, is to my mind a great question. While it may be true that no class of physicians can so well handle epidemics of infectious diseases among the troops, it surely seems to me that the pediatrist is of much greater use to his country, if he stays at home, redoubling his efforts to save the babies and little children, "for of such" is the future of our country. To those who have entered the military service, all honor, but to those who have, in spite of inclination, in spite of jibes and sneers, but because of deliberate conviction that duty, their highest duty, bids them stay at home, more than honor is due, an appreciation by their colleagues, by the laity, by those in authority, of their more than great sacrifice.

While I cannot presume to indicate the especial and particular lines of endeavor which each individual of our membership should pursue, it seems to me that our service can be broadened along certain lines, perhaps not hitherto exploited as they should have been. The pediatrist, besides his regular vocation of caring for sick children, should be and can be, *par excellance,* the teacher; teacher not only of nurses in hospitals, but teacher of expectant mothers, teacher of all mothers who come within the sphere of his influence; teacher of the laity of his district; teacher and influencer of the powers governing our cities and towns. We are, as a profession, called on this year to "save a hundred thousand babies." How better can we do it than by devoting part of our energies to assisting and advising the great body of loyal women who have undertaken to help in this movement? One of our own section has been appointed to head the state committee of the Society for the Study and Prevention of Infant Mortality. To work under his able direction should not only be a pleasure to each of us but should also be productive of important results, both in respect to an augmented membership, and in the broadening of the scope of interest in this and all pediatric advancement. May I not bespeak for Dr. Carpenter your most hearty cooperation?

The classes of nurses, whole time and part time, in our hospitals are to be greatly increased during the coming months, and the material seems to be most superior. Does not this situation present peculiar opportunities to pediatricians connected with our many hospitals, enabling them to teach in such a way that the implanted ideas may not only serve now to ameliorate the conditions among children, but in the future to make of each of these young women, who may return to civil life, a center from which will still flow proper ideas as to the care and upbringing of children.

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* Delivered before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

The pediatrist probably occupies the most confidential and influencial position in regard to family life, and his opportunity for aiding the proper propaganda in behalf of his country is unexcelled. It seems to me that to talk over judiciously and tactfully a few of the many problems which confront the country and the world is a duty and a privilege. To make people understand that he who is not with us is against us, that he or she who will not give an honest day's work for a proper wage is a slacker, that he who by ever so little, by word or deed, slows up our endeavor to win this war is a traitor and as such should be punished. To make people believe, giving them reason for such belief, that this war is a war not only against German militarism, but against a people so steeped in the traditions of obedience to militarism, that they have trodden under foot all honor, all morality, all humanitarianism, all Christianity, and in the place of these high virtues have placed inexpressible cruelty, national and personal, an immorality without precedent, a defiance of all the laws of God and of man, all for the single purpose of ruling the world. And, further, each physician, pediatrist or other, should be a keen observer, and a ready reporter of all that goes on around him which in any way savors of disloyalty or treason.

This is your war as well as my war; it is the war of the children yet unborn; of the little ones who, through our efforts are to grow to a free manhood and womanhood; it is the war of civilization against barbarism; the war of right against cunning and efficient might. I have perhaps indicated to you only a few of the multitude of ways in which the pediatrist especially can be of service to his country and I leave untouched any references to the multitude of problems which will come to the pediatrist when the war is over. To study, to practice, to teach, to educate, in a word, "to serve," this should be the great endeavor of every lover of his kind, and especially of the pediatrist.

715 North Highland Avenue.

ORIGINAL ARTICLES

RADIOGRAPHIC DIAGNOSIS OF ILEOCECAL VALVE INCOMPETENCY *

MULFORD K. FISHER, M.D.
PHILADELPHIA

It is only within comparatively recent times that ileocecal valve incompetency has been recognized as a distinctly pathologic entity. In fact, a decade ago the condition was practically unknown and it was principally due to the studies and efforts of the newest of medical sciences, roentgenology, that recognition of the condition has been made possible. In fact, without roentgen-ray study it is impossible to diagnose the condition clinically. Even yet there is considerable contention, principally among the surgical profession, as to whether incompetency *per se* is a pathologic condition causing a distinct train of symptoms and as such entitled to a place among the numerous other ills to which mankind is heir. One of the provinces of this paper will be to attempt to prove that ileocecal valve incompetency is a not infrequently met with condition;[1] that it is characterized by certain well-defined subjective and objective symptoms; that by means of roentgen-ray examination it can be absolutely and definitely diagnosed, and that under proper surgical treatment cure can be and will be effected.

While the ileocecal valve was discovered in 1566 by Posthus, the function of the valve described by Piccolomini in 1570, it was not until over 300 years later that Herz, in 1897, first recognized that incompetency of the valve was a distinctly clinical factor. The wonderful development of radiographic technic within the past few years and its increased importance as a diagnostic aid in medicine and surgery has demonstrated this condition in an increasingly large number of individuals. In this country, Kellogg and Case of Battle Creek and Cole of New York have been the leaders in this propaganda, and it is due to their incessant studies and writings that due recognition of ileocecal incompetency is being given serious heed by the profession.

Anatomically, the valves are reduplication of the folds of the ileum invaginated and projecting like two separated fingers into the lumen of the cecum. They are composed of fibrous tissue and both circular and longitudinal layers of muscular tissue. Physiologically, the valve moderates the flow of the contents of the small into the large intestines, acting in a similar manner to the pyloric sphincter with which its synchronous reflex action has been definitely proved to be correlated. This action should normally take place only in one direction, viz., from the ileum into the cecum. A reflex in the opposite direction should, as has been pointed out by Keith, never occur. Pressure from the ileum opens the slit and allows easy passage of the semifluid contents of the ileum; but pressure from the cecal side approximates the lips of the valve, the greater the pressure the more firmly is the opening closed. The valve of the newborn infant is always competent; incompetency is acquired, and rarely even seen in childhood. Personally, I have never encountered the condition except in adults.

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1919.

[1] J. C. Case in over 3,000 intestinal examinations discovered it in 500 cases, or a proportion of 1 in 6.

Granting, then, that the normal valve is competent, that it admits the passage of intestinal contents in one direction only, and that this action is regulated in a sphincter-like manner by the muscular tissue of the valve segments, of what does incompetency consist? One word explains this—regurgitation. As a result of overstretching, relaxation, and weakening of the walls of the bowel, the valvular function disappears, even with destruction and final disappearance of the valves themselves; there is widening of the lumen with easy passage, without hindrance, of the intestinal contents and finally, with atony and stasis established, return in the reverse direction from the large into the small intestine is easy of accomplishment. Of no particular type of individual is incompetency pathognomonic, although it is more frequent in females and particularly, as might be expected, in those who are habitually and obstinately constipated, as the retention of fecal contents over a long period of time would naturally lead to overdistention and consequent atony of the muscular coat of the bowel. It may be here noted in passing, that the lumen of the normal ileocecal junction measures 2 to 2½ cm.; when incompetency is established, it measures from 4 to 7 cm.

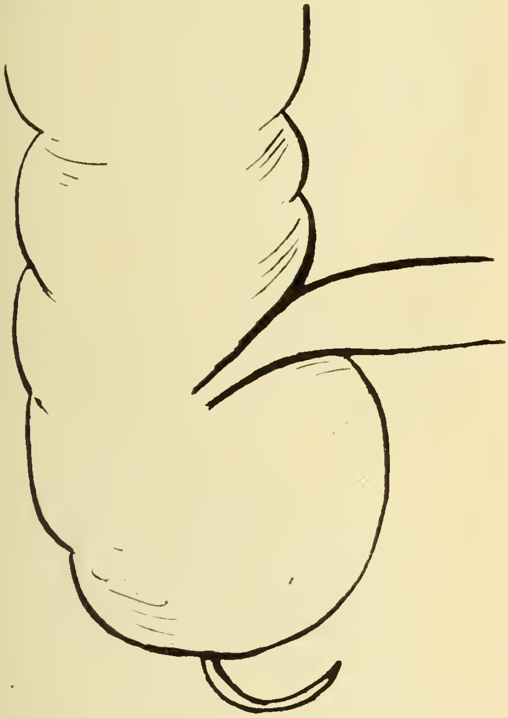

Fig. 1.—Diagrammatic representation of normal ileocecal valve showing invagination and projection of the valve leaflets into the cecal lumen.

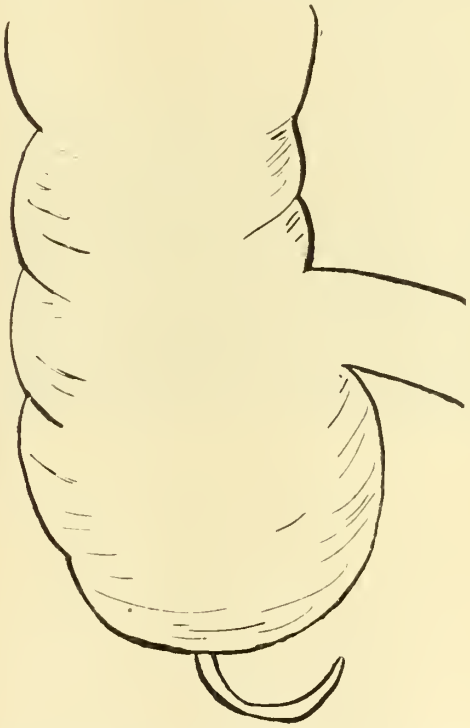

Fig. 2.—Diagrammatic drawing of incompetent ileocecal valve showing disappearance of the valve segments and the widened gaping valvular orifice.

Many factors enter into the etiology of the condition; only rarely is incompetency the only pathology present. Rather is it a concomitant of the other conditions and most frequently secondary to these. Pericecal adhesions, kinks, chronic pelvic inflammations, Hirschsprung's disease, dilatation of caput coli, diverticulitis and, most frequent of all, chronic appendicitis may be accompaniments of ileocecal incompetency. I have not noted that it is any more frequent in cases of gastric or intestinal ptosis, although, in the latter, one would be inclined to believe incompetency would be commonly found.

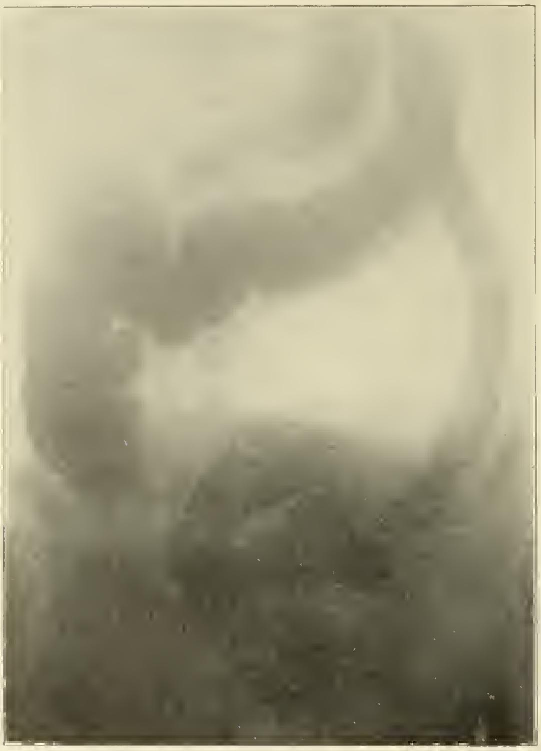

Fig. 3.—Competent valve: None of the barium has passed beyond the cecum.

Subjects in whom the condition is found are invariably patients suffering from chronic constipation, in fact, this is the prime etiologic factor. The constant distention of the cecum from retained fecal masses, due usually to functional causes, ultimately leads to mechanical inhibition of the valve segments which now have lost their sphincteric properties. The small intestine becomes, as a result of regurgitation of the fecal contents through the widened aperture, what it normally never should be, a reservoir for alimentary excrement. In some advanced cases regurgitation may occur throughout and include practically the entire small bowel.

Symptomatically there are present all the accompaniments of an intestinal auto-intoxication, headache, belching, fetid odor to the breath, migraine, abdominal distress and general malaise and constipation. Occasionally a distinct tumor mass may be noted in the right iliac fossa which assumes a sausage-like appearance. Not infrequently localizing symptoms in this region causes the condition to simulate appendicitis from which differentiation is extremely difficult, if not impossible, without roentgen-ray examination.

How frequently does it fall to the experience of every surgeon to cut for an inflamed appendix and find no evidence of pathology of that organ present. It is comparatively easy to test the competency and size of the lumen of the ileocecal valve at this time and especially important if no discoverable pathology is found. In fact, Kellogg and Schell test the function and patency of the valve in every operative case in the right inguinal region and if incompetency is present, repair the valve. However, it is not the domain of this paper to intrude on and discuss the surgical problems of this condition; that is better left in more competent hands. I have, however, been frequently much chagrined when on reporting incompetency to be demonstrated on roentgen-ray examination, and inquiring from the attending surgeon if the condition was corroborated on the operating table, to be told that he had not even looked for it. The surgeon complacently feels he has done his full duty when he has removed the appendix and such things as these apparent

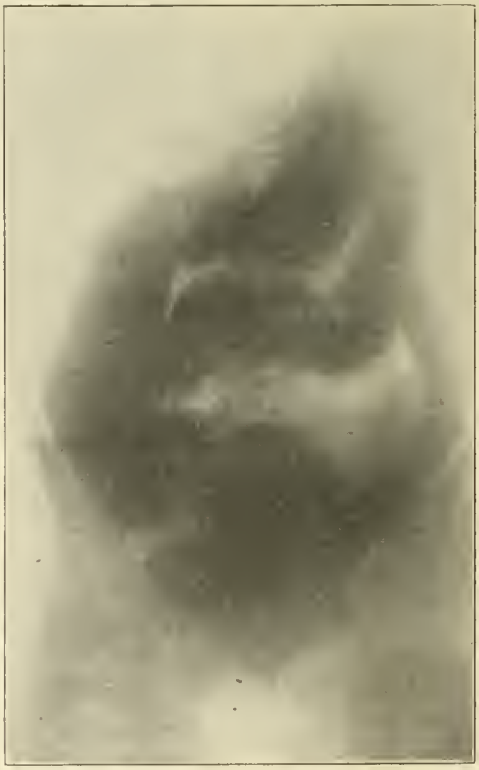

Fig. 4.—Incompetency of ileocecal valve well established.

minor conditions can be relegated to his humble brother, the internist.

Andrews, in the *Wisconsin Medical Journal,* 1913, aptly argues the fallaciousness of this attitude. He says, "The fact that there are pathologic conditions of the terminal ileum and cecum simulating chronic appendicitis, but having no relation to the appendix, is abundantly proved by the failures to ameliorate symptoms in 25 per cent. of cases of so-called appendicitis in which the appendix has been removed." While the Mayos do not agree with the school teaching surgical interference in incompetency, yet they do advise careful exploration of the terminal 6 inches of the ileum.

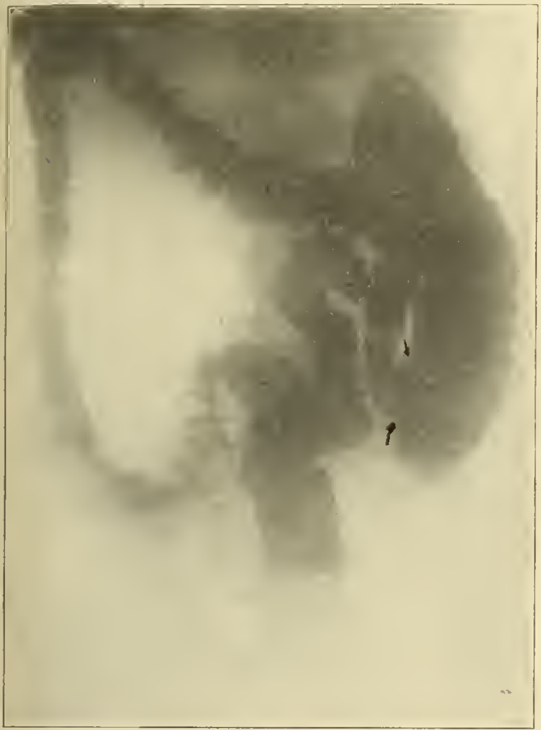

Fig. 5.—Ileocecal valve incompetency with pronounced dilatation of the ileum.

Personally, I have been much struck with the large percentage of cases of ileocecal incompetency found in postoperative cases, or rather individuals who have been subjected to surgery without apparent benefit. As it is only recently that this phase of the subject aroused my interest, I have not sufficient statistics to do more than passingly mention, rather than urge, this contention.

From a radiographic viewpoint, the diagnosis of incompetency does not present much difficulty. Rather infrequently is the radiologist asked to look for the condition; rather is the condition usually discovered as a part of a gastro-intestinal examination when, instead of following the opaque meal from its ingestion to its elimination, an enema outlining the colon is introduced.

A preliminary purgative or cleansing enema should precede the examination. Barium sulphate, on account of its comparative cheapness, is used instead of bismuth. Ten ounces of this salt in a quart of warm water is slowly introduced into the rectum; the patient, who is lying face downward on his abdomen, is instructed to retain the solution. In from three to five minutes after the last of the mixture has flown in, the plates are made. Normally when the valves are competent, none of the barium has passed beyond the cecum. However, when the valves are not competent, the bismuth passes through and regurgitates into the ileum, this condition being easily demonstrable on the roentgen-ray plate. In some cases with a gaping patulous orifice there may be filling up of almost the entire small intestine with the barium. Cole divides incompetency into three stages dependent on the size of the aperture and the extent of the regurgitation. I see no reason for such a classification. The mere fact that we are dealing with a valve which

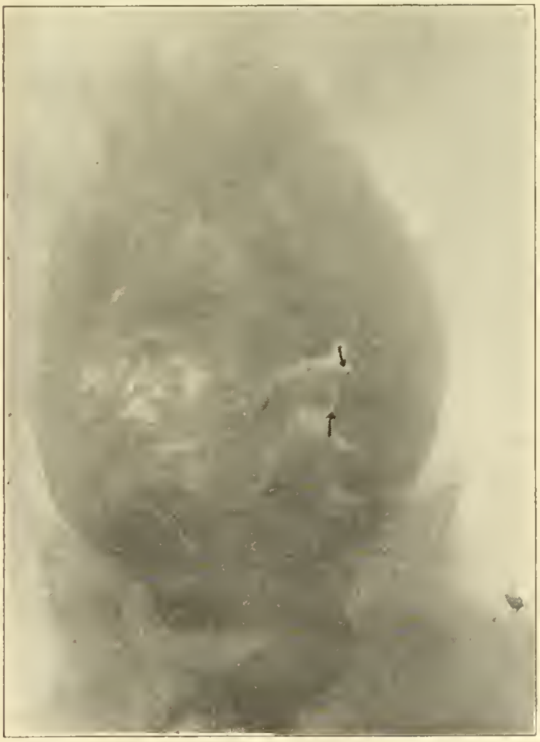

Fig. 6.—Ileocecal incompetency with regurgitation of the barium throughout the entire small intestine.

does not properly functionate is sufficient to class it as pathologic.

Ileac stasis has purposely not been mentioned, for although it may and usually does coexist with incompetency, the two conditions are not interdependent. It is difficult to conceive that the restoration of the valve can be accomplished without recourse to surgery but Bryant[2] believes medical treatment may assure improvement and even restore the valves to complete competence.

Kellogg, who only operates when incompetency exists in conjunction with some other definitely indicated surgical lesion and practically never primarily for the incompetency itself, feels that medical treatment has frequently yielded him good results. Briefly, his treatment is to secure increase in the number of bowel movements by the use of paraffin oil and increasing the carbohydrates.

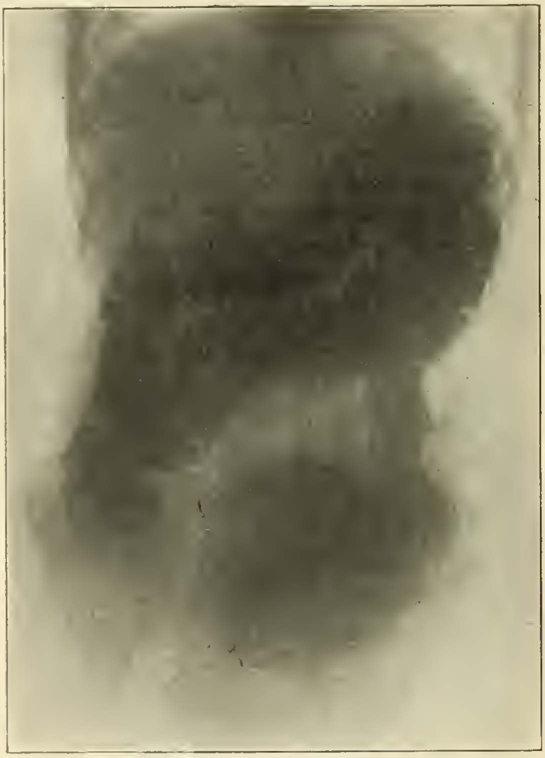

Fig. 7.—Same as Figure 6: Postoperative radiogram made after repair of the ileocecal valve. Note that competency is now established, no barium passing beyond the cecum.

The surgical technic of the valve repair, as I understand it (a very simple matter for the surgeon), is not within the province or the capabilities of the author to discuss. In the few cases where I have been able to secure radiographic plates after operation, there has been no return to the preoperative condition, the valve remained competent and there was no reflux of the barium into the small intestine.

Ileocecal valve incompetency is such a frequently overlooked condition, is so readily roentgenologically diagnosable and cure so readily effected by a simple surgical procedure, that persistent reiterations of its importance should be made so as to focus and retain the interest of the profession on what is a distinctly pathologic problem.

1318 Locust Street.

DISCUSSION

Dr. J. Thompson Schell, Philadelphia: For the past few years I have routinely examined the cecum, ascending colon, and the terminal ileum whenever I had the opportunity while operating within the abdomen, as I have repeatedly noticed that many patients who had been operated on for various chronic conditions, such as the so-called chronic appendicitis, had received little or no benefits from their operation. This observation applies also to the results following operations for Lane's kinks and intestinal stasis, for, while I have had and have seen brilliant results, I regret to say I have seen many failures.

For over three years now I have been plicating the dilated cecums and ascending colons after removing the appendix and correcting any kinks caused by adhesions and with very much more satisfactory terminal results. About two years ago my attention was drawn by Dr. Fisher to the work Kellogg was doing with the ileocecal valve incompetency and I was favorably impressed at once, as the failure of this valve to properly close would account for many of the failures noted in the past and would also explain the much more satisfactory results following plication of the cecum, for in plicating the cecum the ileocecal valve, to a certain extent, had been improved, although I had not realized this at the time.

Since working along the lines suggested by Kellogg, I have attempted to improve the ileocecal valve first and then plicated the cecum also, and I have been pleased with the results that followed. The diagnosis of ileocecal valve incompetency is an easy and simple matter after a little experience; in very patulous valves the finger tip can readily pass from the cecum to the ileum by invagination of the serous coat of the cecum. The valve can readily be made out as it is distinct, almost cartilaginous to the touch; in very marked cases two fingers can readily be inserted and a thin fibrous band felt. The test of competency suggested by Kellogg is practical and easily done clinically. This test consists of milking the cecal contents towards the ileum, and if you can force gas or contents from cecum to ileum the valve is incompetent and is not performing the function for which it was intended. The same amount or even less pressure in the opposite direction, namely, from ileum to cecum, will result in easy passage from the small to large bowel and this test must be made after the operation is completed to make sure that the valve has not been sewed too tightly; in other words, overcorrected.

Dr. William Mayo, in 1900, reported two cases of marked constipation that he operated on, which was caused by a fibrosis in this valve, and expressed the view at that time that it might be one of the causes of constipation. I have never seen such a condition, however, in any of the cases I have examined. As pointed out by Dr. Fisher in his excellent paper, the diagnosis of ileocecal valve incompetency cannot be made absolutely without the use of the ronetgen ray, and I might add that at times, rarely, however, this may also fail. Dr. Fisher roentgen-rayed a patient of mine that failed to show any barium in the small intestine, but at operation the valve was found much dilated and incompetent. The terminal ileum was found kinked in such a way by inflammatory adhesions that it formed a trap that acted as an obstruction, thus taking up the work of the incompetent valve. This was the only case in our series, however, in which the roentgen ray and the operation findings did not agree.

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[2] Boston M. J., 1916.

The clinical symptoms that are most suggestive of the condition under discussion are the symptoms of chronic appendicitis. In addition to this, I wish to call your attention to symptoms of tympany. Ileocecal valve incompetency has associated with it almost invariably a more or less dilated cecum and colon and also very often a dilatation of the terminal ileum. Tympany in this condition is most marked all over the right side of the abdomen and extends frequently to or beyond the median line, differing, therefore, considerably from the tympany usually found in ordinary chronic dilatation associated with a relaxed cecum with a competent valve, as the tympany then is distinctly limited in area to the right side only and does not extend to the median line or beyond, as I have frequently found it when the valve is incompetent. A dull aching pain in the right side associated with marked constipation as a rule, chronic indigestion, persistent intestinal flatulence, marked nervousness, general ill-health, usually loss of weight and indicanuria are the usual symptoms.

Incompetency of the ileocecal valve is due to dilatation of the cecum and with stretching or rupture of the habenula. The efficiency of the ileocecal valve is due to the oblique manner in which the ileum enters and is invaginated in the cecum. Therefore, in attempting to correct this condition all that is necessary is to place the sutures so that the ileum is invaginated and the habenula is restored to its normal position.

The cecum and ileum are exposed by rotating them anteriorly; a fine needle, preferably cleft palate needle, carrying a linen or silk suture is used; usually one or two sutures are all that are required. The suture is first passed through the serous and muscular coat of the cecum and then through the serous and muscular coat of the ileum in order to invaginate the ileum into the cecum; another suture is then placed, if necessary, so as to draw the two ends of the habenula or longitudinal band together; a pursestring suture can be placed so as to produce the same result. The success of the operation depends on first causing an invagination of the ileum into the cecum and restoring the habenula to original relationship. The peritoneum must be irritated before tying, either by painting with tincture of iodin or scarifying with a curet or dry gauze.

After the little operation is finished the valve must be tested to ascertain whether the incompetency has been overcome and also to make sure that it has not been overcorrected. This can readily be ascertained by milking the contents of the ileum into the cecum and if the gas and fluid contents pass through readily in that direction but cannot be forced back into the ileum from the cecum we know that the correction is satisfactory.

I have performed twenty-six of these operations, some with and others without plication of the cecum, and have seen no trouble from overcorrection. In all of my cases there has been a marked relief from the constipation and the other symptoms. I am inclined to think from this limited experience that the importance of the ileocecal valve has not been appreciated by the surgical profession and that Dr. Kellogg's work has not received the attention that it deserves, and I hope that Dr. Fisher's paper will be the means of calling their attention again to this subject.

PNEUMONIA *

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The topic of pneumonia is wide as the earth; comprehensive as the human race; as old as the records of man; the third on the list of victims of disease; yea, more, if a thorough and scientific investigation should follow its ramifications in all its remorseless ravages, it might be classed as the first reaper in the harvest of death. The principal cause of death in our Army has been pneumonia, 61.5 per cent.

Its onset is often sudden and marked or stealthy as a thief at night. It will snatch the innocent from the cradle; crush the stalwart giant of the middle years; or beckon the aged onward to the open grave.

ETIOLOGY

The etiology is variously designated. Most generally it is accredited to the microbe pneumococcus. May not we ask, however, whence the germ? What is a germ? Evidently a compound of chemical elements.

Based on the natural function of the body, we have a series of organs in the skin whose mission is the essential elimination of a clear liquid known as the perspiration, or sweat, and the gasses produced by the oxidation of the tissues of the body. Dr. Shoemaker, to whom we are indebted for much information on the functions of the skin, gives the number of these glands or pores of the average adult as 2,381,218. The pores in the skin are the chimneys of the body through which the carbon dioxid gas due to the oxidation of the tissues of the

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918. The author died Oct. 4, 1918.

body escapes. These pores at a temperature above sixty are open apertures which allow the carbon dioxid gas to escape with the perspiration as fast as it is evolved in the process of oxidation. In the production of heat there is always an oxidation of carbon, the resultants being water and carbon dioxid. So long as this process is in operation there is no reason why the blood should not remain pure, but close one or a million of these flues and the carbon dioxid is retained in the blood stream. As well might we seal·up a room and expect the inmates to obtain sufficient oxygen to oxidize the hemoglobin of the blood as when vitiated by carbon dioxid gas.

The Journal of the American Medical Association, July 6, on page 40, on the subject of reduced oxidation with some observation gives the following:

> The finer analysis that observes the enforced changes with the living cells has less often been the way of research. The interpretation of the results of cellular changes is always particularly difficult because of the many factors at play. Cells not only require oxygen and food, but also produce carbon dioxid and other decomposition products. . . .
>
> Thus, in the oxygen defficiency experiments the lesion increases in intensity with increasing distance from the arterial blood supply. On the other hand, in the carbon dioxid experiments the lesions are in general more marked the nearer the tissues are to the arterial supply. . . .
>
> The theoretical aspects of the phenomena are not yet entirely clear, but in the interpretation of cellular lesions such as those here described, the factor of the reduced oxidation must hereafter always be taken in account.

The poisoned blood excites increased heart action and the capillaries of the lungs are injected with blood, the tendency of which is to coagulate when active congestion ensues and oxidation of the serum into the air tubes follows. Each variety of microbes has its exudative elementary atomic medium in which it is formed and exists. This exudate is the nutritive element of the microbe and at once becomes charged with the various micrococci incident to this disease, but the microscopic germ is not the primary cause of disease, yet here in the normal secretion the chemical atoms necessary to its development and existence are found.

As an illustration, Professor Fritche, a pupil of the celebrated Koch, demonstrated to our class in microscopic work in the University Hospital of Vienna the process of formation. He took a small portion of dust swept from the floor of the lecture room and scattered it on the agar under the receiver and awaited results until the next day. There were then shown the development of germs under the microscope of the many varieties known, which exhibited conclusively the source and growth of the microbic germs in disease.

In this disease we are not only dealing with the pneumococci but with a mixed infection as well. This is indicated primarily by our diagnostic points, or, in other words, it is what enables us to diagnose a pneumococcic infection. One of the best proofs of the above statement is the number of cases of delayed diagnosis of septic pneumonia.

Without the secondary infection there probably could not be a case of pneumonia as we know it. The pneumococcic germ is selective and will grow only on selective tissue or culture medium. This tissue or culture medium is furnished in the human body either by other germs or agents as the case may be. In the primary symptoms of pneumonia, the pneumococcic germ is generally not active, but latent. But the secondary infection is active and often a short time produces the agent for the pneumococci to grow and flourish and second the chief offender.

We now have a fully developed case of pneumonia either bronchial or lobar or both with high temperature and often delirium. This result may occur within twenty-four hours after the exposure or several days thereafter. To illustrate practically a few cases are presented:

> In a group of eight cases in the same ward, about two years ago, in the Westmoreland Hospital, brought in about the same time, six cases were very serious and two were milder cases. Of the serious cases, three patients were brought in in a state of delirium and the other three became so within twelve hours. These three patients with delirium were shackled to their beds and all seemed to have quieted down near midnight. The nurse left the ward for a short time and on returning met one of the patients at the door leading into the hall. She tried to get him back to his bed when he picked her up and threw her on the cot. She, however, got away and seizing a pair of handcuffs succeeded in fastening the wild man on his bed helpless. Looking across the ward she saw two more of the patients, one trying to get out of the window and the other standing in the corner of the room. She managed to get the would-be window jumper and tied him down to his bed. The third was less trouble and was also made secure. I can scarcely conceive of a greater manifestation of courage and bravery than that by this nurse, Miss Feather, scarcely of the average size. The eight cases were fully recovered within two or three weeks.

DIAGNOSIS

A prompt and active, accurate diagnosis is necessary and must be made immediately and absolutely correct. To diagnose the case of pneumonia a trained ear is imperative. Sound is everything. A proper interpretation will tell the story of the case in every shade of sound, or the absence will reveal the air cells closed up with exudate or coagulated blood. Hesitancy or delay in diagnosis may be fatal. Too often it is said, "He was sick but a day." The patient may have failed to feel but slight inconvenience until his physician has discovered a case of pneumonia well advanced then the battle may have become doubtful.

TREATMENT

The treatment as practiced today in many cases is but guess work and seems to be based on doubtful premises, in some cases little else being done than give some cough remedies, believing that Nature will furnish a cure. Some physicians have a total disbelief in any treatment because chiefly they have never fully understood the causes and the physical and chemical changes which take place in every well-defined case of pneumonia.

We need, therefore, but consider the primary causes and follow the physical and chemical changes. We first have in the inception of a case of pneumonia the sudden change in temperature of the body to a degree so much lower as to close the pores and we therefore want an active diaphoresis produced by external moisture and heat, and an internal remedy to create an active succussion of the internal organs, followed by warm potations. Our parents and grandfathers, before physicians were readily available, often aborted possibly the onset by a temporized vapor bath with whisky or alcohol, which gives us a pointer for other appropriate remedies.

The next in order is a saline cathartic which should leave the organs, the stomach and liver and kidneys, in a receptive condition for other remedial agents. Should an arterial tension exist, the use of veratrum viride (Norwood) will, if used to the effective limit, reduce the heart beat to the normal, or it should rather be forced down below the normal standard and be kept there until the congested lung tissue has had time to resume its normal vascularity and the engorgement be cleared up. If this result has been obtained the case is on the road of safe recovery. Digitalis may be necessary in weak heart action and should be combined with veratrin. Opiates are essential in a disturbed condition and delirium of the patient.

The ice-bag should be applied to the head in high fever and, after the case is on the way of recovery, syrup of ipecac combined with additional remedies and means may be employed. To sum up generally, whatever is done for a case of pneumonia must be done opsonically and no half way effort will succeed.

There are many physicians who positively disapprove of the use of veratrin in the treatment of pneumonia.

In Forchheimer's "Therapeusis of Internal Diseases," edited by Frank Billings, S.M., M.D., Vol. II, page 248, is the following: "The author has never seen a case of uncomplicated pneumonia materially relieved or controlled by veratrum viride. He believes the drug depresses the vasomotor center and forces more blood into the splanchnic area while the peripheral organs and lungs are depleted." He further adds, "The routine use of the drug should be discouraged." I admit the routine use of veratrin should be discouraged and so should the routine use of all drugs of all kinds be discouraged.

Any and all drugs should be used only for physical or chemical reasons and that to produce desired results. In pneumonia the object should be to slow down the pulse and give the heart an opportunity to assume its normal rate. To do this and to be sure of and expect results the Norwood tincture is the most reliable drug and to be used in the adult in doses of eight to ten drops every two hours; increase or reduce the dose as required to bring the pulse rate down to eighty or to sixty beats as rapidly as can be done, until nausea is indicated, when the rate will be lowered, but get the result and keep this rate twenty-four or forty-eight hours, increasing or diminishing the interval and dose to this end. When this rate is attained persevere until the congestion clears up.

Before I knew anything about medicine I saw a child, 2 years of age, when it was considered fatally ill, treated by this method by Dr. H. G. Lomison and, since then, many other cases were treated by him as well as by myself and others, with very few fatal results. I had three attacks of pneumonia myself and was treated along this line and believe I am still a living being in the body with you. Strychnin and digitalis are necessary adjuvants in heart depression. Other remedies may be necessary in certain conditions.

Dr. Cohen recommended quinin and its salts, which have been used with more or less benefit. Caffein, camphor, creosote carbonate have been found beneficial by Drs. Zund and Thompson.

Oxygen in depressed condition is essential and may save a patient. The various serums have also been vaunted as specifics, but the profession has failed to obtain the expected relief so it is still an open question. Pneumococcus vaccine has its claims. Metallic ferments are also beneficial.

As a summary, veratrin and oxygen at the onset are of primary importance. One of the most important considerations in the treatment should be sterilization of the room or ward in which the pneumonia cases are treated which can be readily arranged in every well equipped hospital.

To me the whole question seems to be what can be done to prevent the inception of pneumonia? If the causes are known, can the majority of cases be prevented? It is a preventable disease.

When you have a case of pneumonia by what means can you arrest it in its earliest stage and under all conditions and circumstances? If you have a remedy that is available instantly, you should know how to use it efficiently. Other remedies may answer, but do you have them in hand for immediate use?

In the résumé it is desired to recall one of the most general causes of pneumonia and with ordinary knowledge and training it is preventable.

There are varieties of other causes, such as shock and so forth, but the pore closure is an actor in the drama.

In the treatment, restore the disturbed condition of the system to the normal status and your patient will remain with you, and bless you.

The mortality list should be cut down to 5, 10 or 15 per cent.

DISCUSSION

Dr. Charles Rea, York: During the Civil War twice as many people died from disease as from war injuries and these diseases consisted largely of typhoid fever, dysentery and pneumonia. It is improbable that typhoid fever or dysentery will be a great factor in the present war, but pneumonia, the present war's *bête noire,* has loomed up with great significance.

In this discussion we shall consider only lobar pneumonia, which essentially exists today as always, and streptococcic bronchopneumonia. It has now been established that there are four types of the pneumococcus, one or all of which are almost always associated in an etiologic way with lobar pneumonia. Perhaps about one-third of the cases are of Type I of the pneumococcus which, under nonspecific treatment, has a mortality of 25 to 30 per cent. One-third of the cases are of Type II, with also a mortality of about 25 to 30 per cent. Ten to 15 per cent. of the cases are of Type III, with a mortality greater than 50 per cent. Eighteen to 23 per cent. of the cases of lobar pneumonia are of Type IV, with a mortality of 10 to 15 per cent., the lowest of the four types. The hemolytic streptococcus pneumonias are far less understood from an etiologic standpoint and there is a paucity of progress in their treatment. However, we do know and appreciate that the preponderance of cases follow or complicate measles, and it would seem that the great field in the line of therapeutics should be toward the goal of prevention. Particularly is this so where a large body of people, especially in our cantonments, are living together.

Discussing the two major types, etiologically speaking, pneumococcus and streptococcus groups, so frequently there is clinical and bacteriologic evidence of the activity of the two organisms in the same subject that it is sometimes difficult to label an individual case as belonging to one type or the other. Likewise it is difficult to decide which causative organism first began to grow on the soil. Recent developments in the study of the pneumonias, especially in the base hospitals, make it apparent that even now the methods employed are not sufficient for the diagnosis of all the pneumonias and additional procedures will have to be indulged in for the proper separation of the hemolytic streptococcus pneumonias.

As essential as a clinical classification of the pneumonias is, a bacteriologic differentiation is more so. According to our present knowledge of lobar pneumonia, we feel warranted in assuming there are only four types of the pneumococcus concerned in the etiology of this form of pneumonia. There are many times this number of strains of streptococci which may enter into the streptococcus pneumonias, and we are apparently just entering on the threshold of an understanding of the streptococcus pneumonia. Indeed, one is led to wonder if there may not have developed a new form of so-called bronchopneumonia since we have so many men living together in our cantonments. Or, does the type look different to us because we are seeing these cases of bronchopneumonia through clearer lenses and from a different viewpoint? At all events, we certainly need much more elucidation on the streptococcus pneumonias, and this is most likely to be brought about by cooperation of the clinician, bacteriologist, pathologist and epidemiologist. (In passing, we might remark that the mortality in uncomplicated streptococcus pneumonia is about 20 per cent. in the colored and 10 per cent. in the white. And yet it would appear about 20 per cent. of our colored troops have complicating empyema with a mortality of 44 per cent. and the white soldiers have a 45 per cent. incidence of empyema with a mortality of 65 per cent. This interests me and a discussion as to the cause of these surprising figures would be timely.)

The common belief that lobar pneumonia is an autogenous infection is entirely incompatible with present knowledge. On the other hand, the evidence indicates that this form of pneumonia is a contact disease, the infection coming from those who have the disease, or from healthy carriers.

Undoubtedly the most important phase of the preventive treatment of any form of pneumonia is indulging in thorough isolation of the cases and all practical means of destroying the causative organism. Taking up the treatment of lobar pneumonia, the past shows a record of many kinds of treatment and much resultant harm in their wake. However, there certainly are some well-established principles in the treatment of lobar pneumonia and perhaps it would be well for most of us to rely on these few principles, employing in addition, of course, those simple measures which are suggested by common sense and are certain to be harmless. First in importance in connection with doing no harm should be the avoidance of polypharmacy. Whether it be in the form of drugs or bugs. I say this regardless of what any medical man, notwithstanding his prominence, may think he has observed as a result of giving this or that unrecognized drug or combination of drugs or an unscientific and unpardonable but none the less profitable, commercially speaking, combination of bacteria.

The practice of indulging in early digitalization of the patient is probably a wise procedure. The reason is not to produce immediate effects on the heart, but to have the patient in such condition as to be able to respond quickly to digitalis by the mouth if sudden need for it should arise. A good practice, in a case seen early, perhaps would be to give 7½ grains on the first and second days of the disease and not to give any more unless specific indications should arise. If the case should be seen late, give 15 grains on the fourth day of the disease, and 7½ grains on the sixth and seventh days.

For the cough and pain in the chest, perhaps the most efficient remedy is sufficient morphin given hypodermically and frequently enough to dull the patient's sensibilities.

As a local application, I believe a soft, well-padded jacket the best of all, because it is comforting to the patient and perhaps is as helpful as any of the rest. I think it inexpedient, unsafe and unwise to indulge in any form of local treatment where it is necessary to discommode or move the patient much. For the same reasons, examination of the chest should be made only as frequently as essential to follow the course of the disease.

Undoubtedly the practice of putting all lobar pneumonia patients outdoors, unless they seriously object to it, is a helpful procedure. Probably all of us who have had the opportunity to observe the effects of the outdoor treatment have been impressed with the lessening of respiratory distress and mental anxiety. However, to get the most of this measure, the thoughtful physician will see that the several self-evident points are observed.

In persons accustomed to imbibing large amounts of alcohol habitually, it certainly would be a mistake to withdraw it; otherwise, I think there is little justification for its use.

Perhaps the most dependable stimulant, when needed, is digitalis, but probably in most cases it is not needed. The indications for its use are when the cardiac mechanism begins to show evidence of depression by decreased cardiac power and by disturbances of the regulatory mechanism of the heart.

It is extremely important to guard against abdominal distention and the best time to treat it is in its beginning. Turpentine in the form of enemas and stupes is perhaps our best and surest means to combat it.

To turn to the more exact specific treatment, in Types II, III and IV of the pneumococcus we shall have to rely on the measures already suggested, but in Type I we undoubtedly have a remedy which directly attacks the causative organism. Like in diphtheria, the sooner this specific serum is given after the presence of the indicating Type I pneumococcus infection has been established, the better it will be. The ones who have had the greatest experience with this form of treatment appear to agree that about 100 c.c. of the serum, diluted with a half or corresponding amount of normal salt solution, is the preferable initial dose. The same dose should be repeated about every eight hours until a positive effect has been acquired. Although the serum treatment is valueless in any case of lobar pneumonia excepting those of Type I infection, it certainly is a great advance and seems to have made such a favorable showing as to warrant us to state that it has probably reduced the mortality of this type of pneumococcus infection to about one-third of its original mortality. However, it certainly is not an ideal treatment.

Turning to the treatment of streptococcus bronchopneumonia, we have not much to offer except preventive measures and general and intelligent care. The one very interesting phase of this type of pneumonia is how to handle most wisely the frequent complication of empyema. Evidence seems to be against early radical operation. The most practical phase of these streptococcus pneumonias is their prevention by as complete isolation as possible of all those who have some form of streptococcic infection and of healthy carriers.

Dr. S. Solis-Cohen, Philadelphia: I wish to say one word only and that in relation to a side issue raised by Dr. Rea. My own feeling up to February of this year was practically the same as his, that routine mixtures of stock bacteria are unscientific. However, I have been completely converted by what I saw at the post hospital at Fort Oglethorpe, where three members of this society, Majors Smith of Uniontown, Dare and Bergey of Philadelphia, cooperated in preparing a vaccine from streptococci, staphylococci, *Micrococcus catarrhalis* and four types of pneumococci and found that the mortality in patients receiving this was less than 6 per cent.; that the patients so treated did equally well with cases of Type I treated with the specific Type I serum of the Rockefeller Institute, and, moreover, did not develop empyemic complications with the same frequency as those treated with the serum. I was permitted to cite their experience in a paper read before the Philadelphia County Medical Society not long ago and published in the *New York Medical Journal* so that I will not dwell further on the subject. But that large bedside experiment, conducted by scientific men with all precautions, the laboratory worker and the clinician cooperating in the diagnosis, observation and record of every patient, has convinced me that there is both a scientific and an empirical basis for the employment of mixed bacterins in prophylaxis and in therapeusis—at least until something more definite and better shall be put into our hands. In relation to the medicinal treatment of pneumonia I am on record so frequently and so emphatically concerning the definite use of quinin, digitalis and pituitrin that I need not repeat.

REPORT OF A CASE OF PELLAGRA *

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Definition: "Pellagra is an endemic constitutional disease producing cutaneous, gastrointestinal and nervous symptoms of toxic character. It is usually chronic in course, relapsing with increasing severity from summer to summer and improving or disappearing during the winter" (Pusey).

History: The disease was first described by Casal of Madrid, in 1735. From that time until now it has been seen in various countries of Europe, especially Italy, where, in 1881, the number of cases were officially estimated at 104,607, or 0.36 per cent. of the entire population, and, since its recognition by Searcy in Alabama, in 1906, it has acquired a special interest for the medical profession and health authorities of the United States, where it has been found to be widely distributed, being especially prevalent in the southern states.

The theories concerning the etiology are (1) the deficiency theory; (2) the maize theory; (3) the parasitic theory.

The Deficiency Theory.—This was based on the idea that pellagra is due to the absence of some nitrogenous complex, some vitamin, which is necessary to the maintenance of health.

The Maize Theory.—A diet, the chief article of which was corn, was supposed to be deficient in some substance necessary to proper nutrition, or to contain some toxic substance, either normal or as the result of decomposition, which acted injuriously on the human economy.

The Parasitic Theory.—The parasitic theory of pellagra is at the present time the favorite theory of the cause of the disease. Many organisms, both vegetable and animal parasites, have been invoked to account for the disease.

Symptoms: There are two types of the disease: the acute (typhoid type of Lombroso) and the chronic. This latter is the common one and that which is usually described by the Italian writers.

In the recrudescences in the chronic cases the type may change to that of acute. The prodromal stage is usually marked by malaise, vertigo headache, melancholia, insomina, pains in the joints, a burning sensation down the spine radiating through the limbs to the hands and feet; anorexia with gastro-intestinal symptoms, such as pain in the epigastrium, flatulence, eructations and, in some cases, jaundice. Later in the course of the disease there may be an associated stomatitis, with more or less salivation and severe diarrhea. These usually occur in the early spring and are followed rather suddenly by the appearance of the skin manifestations. An erythematous eruption, chiefly affecting the parts exposed to the sun, namely, the back of the hands, stopping abruptly at the wrist, on the tops of the feet and on the legs in those who go barefoot, and less frequently about the neck, perineum and scrotum. The skin is swollen and tense and is the seat of burning or itching sensations; petechiae are frequent, and bullae also occur in very severe cases, which on rupturing leave indolent ulcers. The eruptive phenomena subside in two or three weeks, leaving the skin pigmented, roughened and desquamating; ultimately, atrophic thinning of the skin takes place. The course of pellagra is that of a chronic relapsing disease. It begins, as a rule, in the spring and early summer. It may begin in the autumn; less frequently, in midsummer. By August or September the symptoms have subsided and, as cold weather comes on, the disease usually disappears. With the next summer the patient begins a new and more severe struggle with the disease, and so the annual attacks recur with increasing severity. Pellagra by no means recurs annually with regularity. There may be intervals of several years between relapses. This is particularly likely to occur in patients who are removed from surroundings in which they contracted the disease. In the absence of these relapses the patient is apt to be regarded as cured, but later on, it may be after several years, recurrences are almost sure to take place.

The duration of pellagra varies very greatly. Chronic cases may have relapses for many years; five to ten years represent the usual duration of the chronic case. In America, pellagra has been found to pursue, as a rule, a more rapid course, and death during the first and second summer after the recognition of the disease is common.

Diagonsis: The cardinal symptoms of pellagra are, (1) a dermatitis situated on the exposed parts of the skin; (2) diarrhea, and (3) mental symptoms, more especially melancholia, often indicated by the alliterative formula, the three d's—dermatitis, diarrhea and depression.

Poorly marked cases may present difficulties and require observation.

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

Treatment: The first essential in the treatment of pellagra is to get the patient out of the surroundings in which the disease has developed and place him on a liberal mixed diet. He should take fresh meat, milk, eggs, and fresh vegetables, particularly fresh peas and beans. The only medication which seems to be of use in pellagra is arsenic. The forms which seem to be most useful are arsphenamin given intravenously or sodium cacodylate given intramuscularly.

REPORT OF A CASE REFERRED TO MY SERVICE IN THE MERCY HOSPITAL BY DR. CLEMENT R. JONES

C. P., male, white, aged 33, married, street car motorman, was born and reared on a farm in Potter County, removing to Oakmont, a small town near Pittsburgh, twelve years ago.

Family and previous medical histories were negative. No history of venereal disease was obtainable. Wife is healthy, miscarried first pregnancy, and second pregnancy came to full term, child living and well.

History of present illness: Early in 1907 patient felt out of sorts, had vertigo, pain in head, complained of great weakness, had insomina and was very despondent. A few weeks later he developed anorexia, stomatitis, epigastric pain, diarrhea, vomiting and a mild jaundice. Emaciation was rapid and severe, and patient developed delusions of persecution and contemplated suicide.

At this time he had severe pains in spine radiating down arms and legs, and a few days later there developed, suddenly, a rose-red discoloration on the backs of hands and wrists, which were swollen and burned. This condition lasted two or three weeks and was followed by desquamation, which left the involved areas roughened and slightly pigmented.

With the advent of summer, improvement began and his convalescence was uninterrupted, and by September 1 he had gained 60 pounds in weight and was able to return to work.

Each succeeding year until 1914 he had practically a repetition of the above described syndrome, relapsing, with increasing severity, from summer to summer and improving or disappearing during the winter.

From 1914 until November, 1916, he was apparently free from the disease, enjoyed good health and worked every day.

In November, 1916, the disease again relapsed, with increasing severity. The jaundice was general and intense, lasting for three months; patient had severe stomatitis, diarrhea and vomiting and lost 80 pounds in weight. With the advent of summer improvement began and was uninterrupted until Aug. 1, 1917, when the present relapse developed, and two weeks later he developed, over night, practically continuous bullae over the dorsal and palmar surfaces of hands and fingers. The bullae did not involve the lower one-third of the forearms except a cuff, 1 inch wide, at upper border or line of demarcation.

Physical examination: Patient is emaciated and stuporous and in a typhoid state. The tongue is intensely swollen, red and glazed, with numerous tiny pearl-white spots which extend to the entire mucous membrane of the mouth and the soft and hard palate, probably thrush. The mouth is very septic; sordes are present and the breath is very fetid. The skin over the face and neck is dark brown, slightly atrophic and desquamating; over the elbows, around the rectum, extending over the raphe and involving the posterior surface of the scrotum the skin is pigmented and leathery with course exfoliation of the epidermis.

The hands and fingers on the dorsal and palmar surfaces are covered with pustules and indolent ulcers; the wrists are pigmented and atrophic, and at the junction of the lower and middle third of the forearm an indolent ulcer, 1 in. wide, surrounds the arms. The plantar surface of the great toes shows slight keratosis. Numerous petechiae are present over the abdomen, which is distended and tympanitic.

Nervous symptom: Pupils are dilated, but otherwise normal; reflexes are exaggerated. Patient complains of a distressing sensation of burning in the extremities and the stomach. Vertigo has been very troublesome throughout the illness, and he has had delusions of persecution and melancholia symptoms during each relapse.

The urine was negative.

The blood examination showed a moderate anemia, 80 per cent. hemoglobin and 4,100,000 red cells. The culture was negative, and the Wassermann reaction was positive.

The temperature ranged between 97 and 101 F., with morning remissions and evening exacerbations.

Death occurred September 9.

Necropsy, eighteen hours after death, by Drs. Klotz and Richey, revealed dermatosis of hands, forearms, elbows, perineum and scrotum; superficial ulceration of skin; atrophy of skin; acute ulcerative colitis, proctitis, stomatitis; chronic gastritis; dilatation of stomach; cloudy swelling of liver and kidneys; acute fibrinous peritonitis (localized); hypostatic congestion of lung; edema of lung; acute m. p. bronchitis; fatty intimal streaking of aorta; accessory spleen. The case was one of acute pellagra in which the cutaneous and intestinal manifestations were typical.

637 Union Arcade.

DISCUSSION

Dr. John G. Burke, Pittsburgh: Through the kindness of Dr. Schwartz I saw this case. I was impressed with the profound toxemia manifested, an intense typhoid state for which no cause could be found. It is possible that a roentgen-ray examination of the teeth and other organs might have shown a focal infection. The striking thing in this connection was the occurrence in Pittsburgh of this typical case of pellagra without the occurrence of others. I have seen half a dozen cases which were called pellagra but in which I was able on close inspection to exclude pellagra and diagnose the eruption as belonging to some other disease.

Dr. James I. Johnston, Pittsburgh: I can say almost nothing definite of pellagra because with the disease itself I am not familiar. However, I had the privilege of seeing this case. Two other cases have come under our observation, one in Pittsburgh and one shown before this society some years ago by Dr. John H. Musser. Some exception was taken to the diagnosis in Dr. Musser's case. The case occurring in Pittsburgh, under the observation of a colleague of mine, was one of chronic pellagra seen in one of the institutions for the insane. Having been asked to see Dr. Schwartz' case because of the typhoid state, I at first did not think of pellagra but only of typhoid fever with some incidental skin eruption. Another possibility occurring to us was that of syphilis, although the remitting fever rather put that out of our thoughts. It was necessary to do blood examinations other than the complement-fixation test. We had here also an increased leukocyte count, which in typhoid is always low, but it was disregarded because of the eruption. The blood gave a negative culture. From our study of the case and that of others, we felt reasonably sure that the case was one of pellagra and the necropsy findings seemed to confirm the diagnosis.

Dr. Paul G. Weston, Warren: From the description and necropsy findings, it would seem that this is a typical instance of pellagra. It is interesting to learn that this case came from civil life in a community as far north as Pittsburgh, where animal protein usually constitutes a large part of the average civilian dietary, and not from an institution.

It has been said that pellagra is due to poverty and ignorance of diet in civil life and to incompetence and a desire to maintain a low *per capita* cost in institutions. That corn in itself is an etiologic factor has been dropped by nearly everyone. Goldberger's experiments with volunteer prisoners, though not yet confirmed, seem to show conclusively that pellagra is a deficiency disease, one due to a diet poor in vitamins. He was able to produce pellagra by feeding a vitamin-poor diet. An interesting parallelism seems to exist between a low *per capita* cost and the presence of pellagra in institutions for the detention of the insane.

For a number of years pellagra was looked on as a disease found principally in the southern states and, in very rare instances, here and there in the northern states. I am inclined to believe that it is more prevalent in the north than is generally known. It is not a matter of latitude but a matter of food that determines the presence or absence of pellagra in an institution.

I do not recall whether Dr Schwartz mentioned the diet to which his patient was accustomed. It is very difficult to obtain an accurate history of a patient's diet, though in institutions it is quite a simple matter.

The treatment seems to be rather simple. It was recommended by someone, I do not recall by whom, that the first thing to do in the treatment of pellagra was to replace those who were to blame for the presence of the disease by people who had a greater interest in the patients than in the *per capita* cost and who were willing to properly feed the patients. As a secondary measure, it was recommended that an increase be made in the animal proteins in the diet.

Dr. Schwartz, closing: The question of diet was gone into very thoroughly with the patient's wife. The man lived in Potter County and on a farm. He did not eat any of the corn preparations and scarcely ever, with the exception of game, had fresh meats, having mostly salt meats. Otherwise the diet was a normal one of farm life. He had moved to a small town shortly before his death and had never been out of the state. I believe there are more pellagra cases in the northern sections than the medical profession believes and that they are not always recognized until the final stages appear. In this particular case the dermatologic, the neurologic and gastrointestinal manifestations were so prominent that any one of the respective specialties could lay just claim to the case. The Wassermann reaction was mildly positive.

PRACTICAL DEDUCTIONS FROM SUCCESSES AND FAILURES IN THE TREATMENT OF EAR, NOSE AND THROAT DISEASES *

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Progress in any sphere implies the detection of flaws in the customs that have been superseded. The practice of medicine being both an art and a science, far from exact, is subject to change; and when one considers that within the space of a generation practically its whole system has been revolutionized and that during no like period, perhaps, have so many long-established principles and practices been repudiated as in the last decade, might we not well take counsel among ourselves and in a frank summing up seek to determine whether every change really represents a forward movement, whether today's most popular opinions will survive the judgment of tomorrow? Of one thing I do feel sure: that the principles on which our present day practices are founded will endure far longer than some of the methods of their application. But in a specialty which seems to have been such an inviting field of practice, as indicated not only by the larger number enrolled on its rosters but by the written evidence of their activity as well, it is not surprising that in the sum total of so great achievement there should be found at least occasional evidence of disappointment.

Any attempts to review in a comprehensive way the record of so large a number of enthusiastic workers for the sake of the valuable lessons therein contained would be as impossible as it would be impracticable in the space herein allotted. So I have merely chosen at random some of the more common conditions with which we have to deal in our daily practice, of interest alike to specialists and generalist, for a brief consideration from the standpoint of present-day methods of treatment.

Of course the logical starting point is the faucial tonsil, important from the frequency of its pathologic invasion, the persistency of the process when once involved, the variety and seriousness of its effects both locally and systemically, and the effectiveness of its modern treatment.

In this connection I wish to quote at some length from the paper which I recently read before the Ear, Nose and Throat Section of the American Medical Association.

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* Read before the section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

"Medical science is replete with instances where long-observed clinical phenomena remained vague in their meaning till explained by laboratory research, among which the effects of diseased faucial tonsils have become one of the most notable examples. By the term *diseased tonsils* it is not my intention to include tonsils involved in acute infections nor those affected by neoplastic changes, but only that type in which is recognized the almost constant pathologic changes common to all ages, though usually more active in childhood and adolescence, which harbors within its crypts recurrently or continuously various and manifold pathogenic organisms, the most constant as well as most virulent of which are the streptococci, with their variable cultured characteristics. The conditions which are responsible for the *development* of such foci of infection form one of the many interesting phases of the subject without the pale of my province, though it may not be without relative importance in this connection to recall that, according to Barnes, "Degeneration of the cryptic epithelium usually begins after the sixth month of infancy and is well advanced by the end of the first year." From this early opportunity for the establishment of infected foci to old age no period of life is immune, though the years of childhood and adolescence are generally recognized as the most constant. That these harbors of infection with or without local manifestations, with or without local subjective symptoms, affected or infected adjacent or distant organs, membranes and tissues, was long ago suspected and recorded by various clinicians is a matter of history, but the principles involved and the intricacies of transmission remained to be explained in our day by the combined studies of skilled bacteriologists and clinicians. To say that today we know that rheumatism, arthritis, pericarditis, endocarditis, nephritis, appendicitis, cholecystitis, adenitis, iritis, and even many cases of headaches, various forms of neuralgias, gastric and intestinal indigestion and intestinal autointoxication may be purely secondary to a focus or to foci of infection located elsewhere in the body, of which the faucial tonsils are the most frequent location, is to make a statement which can be demonstrated clinically, and substantiated bacteriologically. One line of investigation of diseased tonsils, which I am convinced, however, will yield more interesting results than have yet been revealed, is that of toxic absorption and transmission. From clinical observations for some years I make this statement with the expectation of more conclusive evidence in the near future; namely, that the poison of putrefaction in diseased tonsils exerts its most potent and far-reaching influence through its effect on the liver in a way that inhibits its normal function, the ultimate effect being to produce intestinal autointoxication and hence indirectly to produce both the local and systemic symptoms of toxemia. Through this indirect process I believe the tonsils to be the most frequent and common cause of colds in the head, so-called bilious headaches, intestinal indigestion, and even appendicitis by weakening resistance to infection rather than by direct or indirect transmission of the tonsillar infection itself. I further believe that many cases of cardiac arrhythmia are results of the same toxic influence, and offer as a typical example the case of my own personal experience.

"*History.*—In childhood I was subject to frequent sore throat, tonsillitis and cold; during adolescence the throat affections became less frequent and I was considered in good health, though poorly nourished and not physically strong. The same physical conditions continued into early adult years though with each passing year the susceptibility to colds and throat infections continued to decrease with the exception of two or three years following an attack of measles at the age of twenty when the earlier susceptibility to colds recurred. Between the ages of twenty-one and twenty-five three severe attacks of appendicitis were experienced, though successfully treated without operation and it has never recurred since. I have never suffered any other severe illness, and though 6 feet 2 inches in height, my weight ranged between 130 and 135 pounds for a period of twenty years from the age of twenty to forty.

"At about thirty-five years of age I began to have occasional 'sick headaches' and about five years later developed an irregular heart which at first would last only a few days or less and then probably seem normal for intervals of a week or two or even longer; these intervals between attacks, however, grew shorter during the next two years, while the headaches occurred oftener and more severe. Examination by three competent physicians gave assurance of no organic lesion of the heart which had a most beneficial effect on my mental attitude, since the arrhythmia was becoming so marked when lying in any position other than on the right side that rarely a comfortable night's sleep was obtained, though the usual routine of each day's work was performed. Then the following associated phenomena were observed; namely, that the headaches were always preceded and accompanied by a bad taste in my mouth and an aromatic or acetone odor to the breath; that with the development of these symptoms the feces became clay-colored which a combination of calomel, blue mass and compound extract of colocynth not only would relieve, but when taken in time (as suggested by the peculiar taste as of tonsillar exudate) would, in a large measure, obviate both the headache and the heart irregularity.

"While this was a great improvement in both physical and mental comfort over the previous two years, it could not be called satisfying, and in August, 1916, under general anesthesia my tonsils were enucleated. The first thought on recovering consciousness was to turn on my left side and see if the heart would behave. It did and is now, two years later, still regular. The characteristic premonitory taste has never returned at all, the headache has not recurred more than two or three times, and then in a mild form, while the liver has functioned practically normally ever since, and my unvarying weight for the past year has been 168 pounds."

I have many cases on record in some respects similar to the above, though not all with the heart symptoms, whose results from operation were as encouraging as they were convincing.

It is surely evident that the toxic products of tonsils play a far more frequent and important part as etiologic and aggravating factors in both gastric and intestinal indigestion than has yet been fully appreciated, and when the chemistry and the toxic properties of the crypts, or rather the entire intracapsular contents of caseous tonsils, shall have been as thoroughly worked out as the bacteriologic composition and the pathologic changes, I doubt not that we shall have added to both our diagnostic and treatment equipment a valuable aid in many so-called constitutional diseases.

The absence of local symptoms in the great majority of diseased tonsils has been and still is one of the chief retarding factors in the awakening of both the physician and the patient to the realization of the danger that lurks within the crypts of a tonsil that, to all outward appearances, is quiescent.

The world was never in a more receptive mood than it is today, but it also asks to be shown.

We hail with rejoicing every new evidence that we are awakening to the seriousness of tuberculosis, of syphilis, of infantile paralysis and many other of the less tragic infections; the public is taught that the germs are lurking everywhere outside the body, and so effective has been the the propaganda against them that every external hygienic measure, for the prevention of their spread, is almost universally recognized. Yet, to use a metaphor in the vernacular of the hour, a mighty host of the most virulent germ-enemies is already mobilized within one of the most advantageous positions *within* the human body, from which intrenched position every avenue is open by way of the respiratory, alimentary. circulatory and lymphatic systems for their advance toward undermining and destroying the resistance of every tissue to any germ with which chance might bring us in contact. The time is propitious when the public must realize, as they are already being taught to realize, through the timely wisdom of a few municipal boards of health, that diseased tonsils are doubtless the most constant menace to the health of everyone, child or adult, and that the only cure or effective relief is their complete enucleation.

We might briefly class the opinions of the profession today on this phase of the subject under two heads: those who do and those who do not favor enucleation, the former, of course, being largely in the majority. Young indeed, however, are members of the profession who do not remember with what ardor the principle at one time had to be defended. That there still exist some enthusiastic and sincere opponents to the process I believe is sadly unfortunate for those who may be influenced by their dissenting voice and pen, for the day must surely come when they will discover the fallacies in their argument. I have ventured the opinion, of the justness of which I am fully persuaded, that the majority of those criticizing the complete removal of tonsils have formed their opinions honestly but unwittingly from the results of imperfect surgery. Among several thousand patients, ranging from ten months to sixty-nine years in age, on whom I have done the enucleation operation in the past few years, safely 20 per cent. had undergone supposedly the same operation elsewhere. In many instances either the patients themselves had suspected or their family physician had advised them of the incompleteness of the result, but in a larger percentage the fact was a surprise both to the patient and the physician, whose disappointment had been keenly felt over what they believed to be the failure of tonsil operations to relieve the ills for which the measure is undertaken.

There are far too few surgeons who have mastered the art of tonsillar enucleation, from whom the rest should take counsel and instruction, as there are far too many whose temerity in the undertaking is born of rashness rather than courage.

This statement of criticism is made with the most charitable intention, not with the idea of discouraging anyone who would aspire to tonsillar surgery, but to encourage and insist that it must be undertaken with the fullest realization that it is an operation which demands the most thorough knowledge of general and localized principles of surgery and the careful acquisition of mechanical skill and precision.

I have never seen a single patient whose tonsils had been completely and skilfully removed under the influence of a properly administered anesthetic, whether local or general, who was not the better as regards physical comfort and safety from the various systemic infections and toxemias.

One of the most frequent examples of the direct toxic effect of tonsils on neighboring tissues is the excessive development of adenoids. Such overgrowth of the pharyngeal tonsil is due, in a large majority of cases, entirely to poisonous absorption from the faucial tonsils, which renders the not infrequent practice of removing adenoids and leaving the tonsils an incomplete and ofttimes but temporary relief. I have never seen the recurrence of adenoids in any case where at the time of their removal the faucial tonsils were also enucleated.

The frequency with which ocular disturbances, headaches, and so-called bronchial asthma have been found due to intranasal pressure from deflected septi, enlarged middle turbinates or to ethmoidal infections, such as were formerly attributed to entirely different causes, forms a brilliant chapter in rhinologic surgery.

Bacterial vaccines mark another of the most important additions to our equipment in the treatment of acute suppurative infections in the sinuses, the middle ear and mastoid. The timely use of this measure in connection with careful local cleansing in my own practice has almost eliminated any necessity for operative interference in either class of cases. In the past five years I have not found occasion to resort to mastoid operation, where the patients were seen before the cells had actually been invaded by pus, in more than one case to each ten prior to that time before I adopted the employment of vaccines.

Since next to the prevention of disease its early recognition is the most important factor toward its eradication, the urgent need of the day is a higher degree of proficiency in diagnosis, in which the family doctor carries the greatest responsibility.

We hear occasionally the complaint that ultimate specialization has so stripped the family doctor of his time-honored varied functions that he has become practically a medical guide directing patients to the proper specialist. Granted that such a situation were actually true, though at first seemingly absurd, there could be imposed on each specialist nothing more than a just obligation to be in reality master of his restricted field, while, instead of resulting to any degree in a humiliation to the conscientious general practitioner, it would recognize in him the capable diagnostician, for which services he should command proportionate compensation and merit a rank of highest dignity. If I can discern the signs of the times, the future is going to be a more exacting task master on the specialist and generalist alike, for the new order of things into which we are swiftly moving will not tolerate indifference to the common good. The economic value of health is just beginning to be appreciated and the world's need today and tomorrow of strong minds in sound bodies has imposed an obligation from which none can or would escape.

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DISCUSSION

Dr. F. N. Emmert, Chambersburg: Dr. Davis' paper was very instructive and is rather broad. It extends just the same way in other branches of our specialty. I remember some years ago Dr. Stevens of New York was a great man on tenotomies; and claimed every ailment of the human anatomy came from a muscular imbalance. It is the same way as Dr. Davis has brought out that every ailment, even appendicitis, has come from an infected tonsil. There is too much bringing out of the infected tonsil. The tonsil is there for a specific purpose. They say, "Take out your tonsils and everything will be cured, you will be perfectly well." I believe that the infected tonsil does do a great deal of damage, but there are too many men today doing tonsillectomies where they are injuring the pillars of fauces, and injuring the whole throat in operating or doing tonsillectomies on merely hypertrophied and not infected tonsils.

OCULAR EVIDENCES OF PATHOLOGY OF THE ETHMOIDAL LABYRINTH *

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Pathology of the ethmoidal labyrinth has been but little understood and its importance, with relation to neighboring structures and the general economy, gravely underestimated. This sinus is particularly susceptible to infection and degenerative changes because of the frequent abnormalities of drainage and aeration to which it is subject and to which the other sinuses are not exposed.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

A vast number of these conditions have gone undetected and the victims in many instances condemned to lives of semi-invalidism, because the ocular evidences have been unappreciated as such and the rhinologist has not been consulted, or because, in other cases, the findings of the rhinologist, based on measures at his command, have been insufficient to warrant a definite diagnosis as to intrasinus conditions.

Owing to contiguity and a very intimate relationship in vascular, lymphatic and nerve supply, the ocular structure seldom escapes involvement in ethmoidal disease and is a very dependable medium for the interpretation of intrasinus conditions.

As the pain in these cases is commonly referred to the frontal or temporal region and is associated with numerous secondary ocular abnormalities, the ophthalmologist is usually consulted for relief. Should he undertake to treat the condition as being purely ocular, the results accomplished will be but poor and unsatisfactory to himself and the patient. An appreciation of the *true* character of the symptom complex and the correction of the underlying conditions will cause many of the ocular evidences to disappear spontaneously, will accomplish results impossible by ocular treatment alone, and prevent development of more serious lesions.

The tendency of most articles on this relationship has been to deal almost exclusively with major lesions about the orbit secondary to ethmoid pathology, such as orbital phlegmon, mucoceles, retrobulbar optic neuritis, etc. The object in the present paper is to discuss especially the minor primary manifestations which are usually in evidence for a considerable period prior to the development of the more serious lesions.

The primary ocular evidences of ethmoiditis may be classified as objective and subjective.

Objective Evidences.—In making an inspection of these cases, one of the first features to be noted is a fulness of the vessels of the bulbar conjunctiva down and in. These are frequently quite tortuous and when examined through the loupe, in a good light, have a distinctive violaceous cast, in marked contrast to the other conjunctival vessels, which may show no abnormality whatever. In marked cases the conjunctival congestion may be more widespread and may produce a chronic congestive conjunctivitis or blepharitis marginalis.

In chronic cases where there is a hyperplasia of the intrasinus tissues or fluid under pressure with obstruction to sinus drainage the inspection also usually shows a considerable reduction of the convergence power, which varies from an instability with full excursion but tiring quickly, to an almost complete suppression of the convergence function. The associated movements, otherwise, may remain intact, and orthophoria or esophoria in many cases be present for distance. As a fixation object is approached to the eyes, in the median line and from a distance of 14 to 18 inches, the eyes will converge to follow it until the point of maximum convergence is reached, when the eye on the same side as the affected ethmoid will diverge and assume a position parallel to that of its fellow. Where the sinus condition is bilateral and about equal in degree of intensity and tissue involvement, sometimes one eye will diverge after the punctum proximum has been passed, sometimes the other. In many of these cases the convergence amplitude may be full and the stability apparently normal, yet if a fixation object be held several inches away and the patient asked to "fix it" the eye on the same side as the diseased ethmoid will assume a parallel position, if not at first, then after the effort has been repeated three or four times. In many of these cases which have been neglected the convergence mechanism becomes unequal to the task of maintaining binocular fixation even for distance and a divergent strabismus appears, the eye on the same side as the diseased sinus developing a transient loss of association which ultimately becomes permanent. In several cases of this type we have secured very satisfactory results, the institution of convergence and fusion exercises, after a thorough curettement of the diseased ethmoid, securing a rapid restoration to binocular vision and full convergence power.

The ophthalmoscopic examination shows a very interesting range of findings depending on the form, age, and degree of activity of the sinus lesion. Chronic ethmoiditis, when of low intensity, is usually associated with marked fullness and tortuosity of the retinal veins, the arteries remaining practically normal. When the sinus condition is active, as in acute infections or acute exacerbations of a chronic ethmoiditis, the arteries as well as the veins are affected. In these active cases the arteries also are usually tortuous, in extreme cases being even corkscrew and give the observer an impression of abnormal tenseness.

Owing to the chronic congestion of the intraocular structures, we would expect to find, in long-standing cases, some fundus evidences of hypertension or degeneration. In the majority of these cases in young adults and children, the compensatory drainage being sufficient, we usually find no permanent increase in ocular tension, but we do find partial or complete pigment rings about the discs. These I am convinced have been produced by repeated, intense elevations of the intra-ocular tension, which occur coincidently with the violent, recurrent headaches that usually characterize this condition. The granular fundi, with massing of the choroidal pigment, so constantly seen in these cases in children, to my mind are merely a degenerative effect produced by the long-continued congestion. These particular pigment changes are not, as a rule, seen in ethmoidal conditions developing after adolescence, and when found in an adult mean that the associated ethmoidal condition has been present from childhood. The vascular changes are the same at all periods of life and in the adult may eventually produce serious degenerative lesions in the choroid and overlying retina.

If the ethmoidal condition be unilateral the ocular changes are confined to the eye of the same side, the fellow eye remaining unaffected. In certain children in whom the ocular tunics are less dense than normal, the imbalance in the drainage system, produced by the influx of fluid in excess of the drainage capacity, produces a progressively rapid elongation of the eyeball with a corresponding change in the dioptric status toward the myopic.

In the vast majority of these cases the correction of the underlying condition will cause the progressive element to disappear.

In this connection I wish to give briefly the history of one case of this group.

Master J. H., aged 6, April 4, 1911, reported from school because of poor vision. The visual acuity was O. D. 20/50, and O. S. 20/100. There was a marked overfulness of the retinal vessels, the fundi being quite granular and the discs surrounded by pronounced pigment rings. In searching for the cause of the congestion I found a bilateral ethmoiditis, a pair of hypertrophied, pathologic tonsils, and the epipharynx filled with adenoid tissue. The correction prescribed at that time was O. D.—1S and O. S.—1.50S which gave him 20/20 in each eye. The father was urged to have the nose and throat conditions corrected but failed to do so. A year later, April 17, 1912, the boy was again reported from school because of poor vision when it was found that the visual acuity, using the old correction, was only 20/100 in each eye and the congestion of the fundus vessels even more marked than before. A retinoscopy showed that the myopia had increased to O. D.—2.25S and O. S.—2.50S which again gave 20/20 in each eye. After further urging, the father had the tonsils and adenoids removed and the ethmoidal condition treated. After a period of five years, on July 23, 1917, the boy was again brought to me, when I found the fundus circulation normal and the refractive error practically unchanged, the old correction still giving 20/20 in each eye.

This is not an isolated instance, but one of many such cases which have fallen into my hands. Where the underlying conditions are not corrected, the myopia frequently develops with marked rapidity and we may find a highly myopic, divergent, degenerated eye on one side and a perfectly normal eye on the other, owing to the fact that the ethmoiditis is unilateral.

Several observers have in recent years advanced the theory that this secondary congestion is an element in the production of glaucoma in the adult. I believe that in some cases at least the imbalance in the ocular drainage system is produced in this manner, although I do not believe that it is an element in all cases.

Various types of opacity in the lens and corneal stroma of the same side are occasionally found. I believe that these are produced by perversions or contaminations of the nutrient lymph by bacterial proteins or other foreign elements entering from the diseased sinus.

The lenticular opacities, which usually are not found before early middle life, are invariably down and in, nearest the sinus, and are marginal or spicular in form. These will remain stationary for an indefinite period, when the associated nasal condition is corrected or kept under observation and treatment.

The opacities found in the corneal stroma, in these occasional instances, are usually quite diffuse and are accompanied by other ocular evidences of nasal trouble. There is in many of these cases, even when the corneal involvement is quite extensive, a much less intense ocular reaction than ordinarily accompanies corneal infiltrations of other types. Without early correction of the associated nasal condition, the corneal opacity usually remains permanently, to a considerable degree, while the early removal of the source of contamination will usually result in a complete clearing of the opacity with a restoration of normal visual acuity.

In cases of this type which have been long neglected the corneal area involved may become infiltrated with calcium salts, which may also be deposited in punctate form on the anterior capsule of the lens.

My deductions as to the relation of phlyctenular ophthalmia to ethmoidal disease have been so recently presented that I shall not touch the subject again at this time.

Subjective Symptoms.—Of the near subjective symptoms recurrent headache is probably the most prominent and is quite distinctive. It is frequently present on wakening in the morning and may persist for from several hours to several days continuously. The pain is generally of a throbbing, lancinating character and is referred to the temporofrontal region, eyes or occiput.

A marked sense of heaviness and soreness about the eyes usually accompanies and follows these headaches and moves many of these patients to consult the oculist because pressure on the eyeballs elicits pain. This is, in fact, produced by pressure transmitted through the eyeball, a semisolid body, on the inflamed and sensitive tissues neighboring the diseased sinus and varies greatly with the direction in which pressure is exercised, being sharp only when made nasalward. This same soreness is elicited when convergence is attempted and is frequently attended with a pronounced sense of nausea. The intensity of the pain is much accentuated by stooping, sudden motions of the head, jarring as by going down stairs, etc. These headaches, which in many cases may have been recurrent since childhood, as a rule, become progressively less frequent and severe after the age of forty and in most cases cease altogether before fifty.

Many of these patients manifest a very troublesome hyperesthesia with ocular asthenia. The latter is usually muscular in type and is frequently quite profound, the unfortunate individual being unable to do much near work of any kind without precipitating a violent headache. In many of these patients, as stated previously, there is an emmetropia present and orthophoria for distance, although the picture in a large percentage of cases is a mixed one, the refractive status being faulty and an exophoria or hyperphoria being present in addition to the deficient convergence function. In such cases a correction of all elements, the ethmoidal pathology first, must be made before a cure may be expected.

In many of these patients, following the correction of ethmoidal trouble, I have had the satisfaction of finding that a hyperphoria or exophoria had disappeared.

The remote effects of this complex condition are many and its influence on the general economy is often vicious, but this phase of the subject can hardly be included under the title of the paper.

517 Jenkins Arcade Building.

DIAGNOSIS OF DISEASE OF THE ACCESSORY SINUSES *

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When one attempts a paper on the diagnosis of any disease, he is limited only by the realms of theoretical medicine. The literature on any given subject is appalling. It is more than that; it is, shall I say, slightly conflicting. One man, observing hundreds of cases as they present themselves in the rush of the usual practice or clinic, finding certain general conditions prevailing, breaks into print with the statement that certain symptoms are pathognomonic. There are few pathognomonic symptoms of sinus disease. When one reads our illuminating articles on the diagnosis of accessory sinus disease, he wonders how it is possible for him to fail to grasp all of the things that seem so simple. Our writers ask us to look for too much. The easiest thing a writer can do is to go into the library, copy references, and then read them to you until he is cyanotic.

Our modern history of sinus disease dates back but twenty years, and any literature more than five years old is of historic interest only. There are certain fundamental principles that have not materially changed and the object of this paper is to reconcile conflicting opinion and to attempt to reach a common ground of understanding, all colored more or less by the personal prejudices of the writer.

The diagnosis of typical sinus disease is clearly outlined in all standard textbooks; and, like most typical diseases, as acute mastoiditis or acute tonsillitis, can scarcely be mistaken by the rhinologist, and no one else need concern himself with an attempt at diagnosis of intranasal disorders. This is the specialist's field and one in which few others can travel far without becoming hopelessly lost. Each man reads into a diagnosis the symptoms complex and his personal clinical experience.

We are seeking the royal road. There is but one master key to unlock the secrets of accessory sinus disease and that is clinical experience.

To clinical experience we bring to our aid certain instruments of precision, roentgen ray, transillumination, suction, nasopharyngoscopes of various kinds, and the ophthalmoscope.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

But the instruments of precision are only of value when read by a precise man. The roentgen-ray diagnosis of sinus disease is a most exacting one. The skiagraph can be made only by a skilled operator and read by a skilled interpreter of the pathology of the sinuses. We constantly accept the report of this or that man as final, forgetting that he has had his magnificent roentgen-ray machine only three months, and will read wonderful things into your plates—or out of them. He knows not that he knows not, and will get you into endless trouble.

The experienced roentgen ray man is conservative; after many years of the most exacting work with the best apparatus, he is likely to report that this or that "looks suspicious," or "is suggestive of disease," but may be an "old lesion," and is anxious to know the clinical findings when you operate.

Few men can make a good skiagraph, and fewer can read one, at least that you would be willing to depend on if it were your sinus to be operated. (And I speak with some feeling in the matter as I have had some inside information. Suspecting a sinus disease and having the advantage of being a physician and possessed of a little natural caution, I secured the professional opinion of a number of colleagues, both at home and abroad. I also had several skiagraphs made at different times and places. Had I followed all the advice given, I should now have neither a frontal, ethmoid, nor antrum remaining. But after the extraction of a couple of molars, and later the free intranasal drainage of one antrum by our esteemed colleague, Dr. Kneedler, to whom I am indebted, I can report a complete recovery.)

On what do we base a diagnosis of sinus disease? First, it is based on a practical knowledge of the anatomy of the sinuses and the pathology of their contents. To this you add the clinical experience gained from the careful rhinological examination of about a thousand cases and a composite history made from them. You then take your individual case and with the composite history as your guide, and the rhinologic experience as interpreter, you write down your diagnosis. It is just as simple as that.

In 1891, Bosworth gave us a classification of ethmoiditis that has been subject to little change.

Any attempt to go exhaustively into the differential diagnosis of the various stages of sinusitis or ethmoiditis would be prohibitive. Even an attempt to sharply differentiate the nonsuppurative from the suppurative is prohibitive. A severe nonsuppurative sinusitis may present all the clinical symptoms of a suppurative one. Any disease that may run a course from a simple inflammatory to a chronic suppurative one, may be infinitely subdivided by the pathologist, the pathology changing from day to day.

We have two diagnoses of any pathologic condition, the clinical and the laboratory. The laboratory diagnosis is practically unlimited, while I am attempting to discuss the subject entirely from a clinical standpoint.

There are practically no symptoms peculiar to any one sinus that may not at some time apply to any other. However, we have a few symptoms that are sufficiently constant to give them a place of diagnostic value.

Let us continue to divide the sinuses into anterior and posterior groups and classify our disease into suppurative and nonsuppurative types.

We shall first consider the ethmoid capsule, for the others are added to or subtracted from it. A diagnosis is based on the clinical history and a careful rhinologic examination, supplemented by the several instruments of precision. The clinical history is of great importance. You will find as many cases of obscure sinus disease as of obscure tonsil infection, often with as little complaint on the part of the patient. As a rule we will find a narrow naris, the middle turbinate tightly wedged between the septum and the outer wall, the middle meatus closed. Now apply cocain and adrenalin to the entire nasal cavity, shrinking everything that will shrink. If the membranes in the middle meatus do not contract, it is almost pathognomonic of ethmoiditis. If pus is found in the middle meatus and reappears in a few moments after wiping away, it is diagnostic of disease of the anterior group. The subjective symptom most constantly present is a frontal or supra-orbital headache varying in degree and constancy. If pus is found during the examination of the nose, we attempt to trace it to its source.

The next step is to wash out the antrum. If this is found to be free from pus, we have definitely established disease of the anterior ethmoids. Ethmoidal disease often exists alone, but frontal disease is almost always associated with ethmoiditis. Complication of the frontal is differentiated only by the more severe and localized pain in the supra-orbital and by roentgen ray.

Antrum disease is the easiest problem we have to solve, difficult though it may often be. Transillumination is always made, and usually with a questionable or negative result. It is rare indeed if one side does not appear slightly darker than the other even when no disease is present. Diagnosis is based almost wholly on lavage. Should pus be found in the antrum, we must determine that it is not drainage from the fronto-ethmoidal. As stated above, if pus presents itself in the middle meatus within a few minutes after washing the antrum, diagnosis of the anterior group is established. If no pus is found and none appears after suction, we have definitely established disease of the antrum. If pus continues in the middle meatus, and continued lavage of antrum produces no change, the diagnosis can only be made by removing a portion of the middle turbinate and anterior ethmoids for free drainage.

The clinical symptoms of postethmoidal and sphenoid are almost identical. A rhinologic examination of the posterior group is usually made with negative results. If we have been able to exclude the anterior group, and pus continues in the nasal cavity, we may assume it is from the posterior group. Under cocain and adrenalin, we attempt to make a direct examination by the use of the Killian speculum or the nasopharyngoscope, both of which are usually unsatisfactory.

Seldom can we positively diagnose the average clinical case of sphenoid disease on objective symptoms alone. If the case is of sufficient severity to warrant surgical interference, removing the middle turbinate and exploring the sphenoid and postethmoid is the only practical diagnostic method.

A chronic pharyngitis is a most valuable diagnostic symptom, but may result from the disease of any other sinus.

We commonly approach our cases expecting to find too much written in large letters, overlooking the footnote written in obscure subjective symptoms. General malaise, inability to recuperate after a night's sleep, anorexia, bronchitis, etc., are quite as suggestive as headache or nasal discharge, and are valuable guideposts to the rhinologist. The subjective symptom most frequently complained of is headache. This is especially severe; supra-orbital for frontal and ethmoidal. For sphenoid, it is more likely to be in the vertex or occiput. The pharyngeal and bronchial symptoms are usually associated with the chronic suppurative type.

We have all seen many cases in which the patient absolutely denies having any nasal symptoms whatever, complaining rather of cough, laryngitis, bronchitis, or asthma. Unknown numbers of these cases are now under treatment for tuberculosis, and when an antrum or sphenoid is drained, they recover almost miraculously. If there are any pathognomonic symptoms of sinusitis you are as likely to find them below the soft palate as above.

The roentgen ray, which is always helpful and in some cases the only means of diagnosis, is not practical in all cases because of prohibitive cost or the inability to secure the services of an experienced operator.

Transillumination of the anterior group is of slight value and is only helpful to confirm a suspicion.

Suction is helpful in the suppurative type only when it produces a positive result.

The nasopharyngoscope is helpful in about 50 per cent. of cases. We acknowledge that Dr. Holmes can get vastly better results.

The value of the ophthalmoscope has been exhaustively and ably discussed in the paper just presented by Dr. Turner.

The diagnosis of sinus disease is possible only to one thoroughly familiar with that intricate group of cavities.

An exhaustive history coupled with a most thorough and repeated rhinologic examination, continues to be the foundation of our clinical diagnosis.

Jenkins Building.

DISCUSSION

ON PAPERS OF DRS. TURNER AND DE MUTH

Dr. Ralph Butler, Philadelphia: This important subject, so ably presented by Dr. DeMuth, deals with one of the difficult phases of rhinology, and many cases require considerable time and study to establish an accurate diagnosis without which treatment must be futile. This is peculiarly true of the obscure chronic cases in which there may be little in the history or within the nose to suggest sinus involvement and nothing to indicate the sinus or sinuses involved. While some of these cases come to us because of definite sinus symptoms, many are referred by the internist because he is trying to find the obscure cause of a toxemia, headache, neuralgia, eye symptoms, etc.

There are certain nasal abnormalities which suggest sinusitis in general and others which point directly to an individual or to a group of these air spaces.

It is well to remember that an acute rhinitis frequently precedes and accompanies an acute sinusitis and that in a unilateral sinusitis the rhinitis may be confined to one side. An anterior or posterior nasal discharge, especially if it be purulent or mucopurulent, may arise in one or more of these spaces and, if chronic, can be cured only by attacking it at its source. This discharge is additionally significant if it is unilateral, if it is subjectively fetid or accompanied by parosmia. This subjective fetor is in contrast to the malodor of the atrophic rhinitis of which the patient is frequently unconscious either by reason of anosmia or because his olfactory organs notice it as little as the heavy smoker notes the odor of tobacco on his own garments. In passing, one should note that a fetid unilateral nasal discharge is a common symptom of a foreign body and in necrosis as from syphilis. Although I would not lay much stress on the color of the discharge, chronic sinusitis often furnishes a light cream-colored pus. Nasal polypi so frequently accompany sinus empyema that their presence should suggest an exhaustive study of these cavities, especially of those whose ostia are in the immediate vicinity of their attachments. Likewise localized inflammation near the sinus ostia may awaken suspicions of deeper involvement. Other significant intranasal findings are an inward bulging of the naso-antral wall and dilatation of the bulla, indicating pressure within these cavities.

Although acute sinus involvement can usually be sufficiently accurately diagnosed by the tenderness, pain, malaise and accompanying acute rhinitis, the chronic cases demand a much more careful study in order that the more drastic, perhaps operative, methods of treatment may be limited to the parts involved. In the latter, each sinus or group of cells is studied separately and we will consider the various methods used in the order of their accuracy.

Sinus lavage is our most reliable test, but it is an uncomfortable proceeding; therefore we limit its use to those cells which other tests or symptoms indicate as suspicious. When it can be accomplished, the diagnosis is usually established, although it is necessary to remember that the antrum may be a reservoir for pus from the frontal and anterior ethmoids. It can usually be employed in the sphenoid, maxillary and frontal sinuses and, by excluding these, it is helpful in diagnosing empyema of the anterior and posterior ethmoids.

Next in diagnostic importance I would place the localization of the point at which pus appears in the nose after the nostrils have been thoroughly cleansed. The flow of the sinus contents can be encouraged by contracting the mucous membrane about their openings with cocain and adrenalin, by suction and by enlisting the aid of gravity through placing the head in certain positions, as in the so-called postural tests. While employing these tests it is sometimes possible to exclude the frontal and anterior ethmoids by carefully placed tampons.

One of our most valuable aids to diagnosis of sinus disease is the skiagraph, and when these are made and interpreted by an expert the findings can usually be confirmed by irrigation.

A properly conducted transillumination is decidedly helpful in the examination of the antra but the frontal sinuses vary too much in size and in the thickness of their bony walls to be successfully examined by this method. In obscure cases and before a case is declared negative all of these tests should be used.

Pain and tenderness are rarely present except in the acute cases, in which they may be severe. Blood changes and rise in temperature are rare in chronic and usually not conspicuous in acute cases.

It is important to bear in mind that a purulent discharge from a sinus may be a symptom of a malignant growth within and any additional symptoms of malignancy should excite suspicion and call for further investigation. Tumors and cysts occur occasionally and may be diagnosed by their accompanying deformities, the attenuation of the sinus walls, the appearance of the growth, if accessible to inspection, the results of the roentgen-ray study, and finally by the microscopic appearance of a section.

Dr. B. Alexander Randall, Philadelphia: Little has been said about the scotomata, especially the central or paracentral scotomata in relation to disease of the accessory sinuses; nor retinal changes verging on choked disc as we see in these cases. My records of twenty-five years ago show that I then recognized and recorded them. Harrison Allen called particular attention in disease of the anterior ethmoids to tenderness on pressure well back in the orbit, and the pain and tenderness that are elsewhere manifested can be easily recognized by many who seek it, particularly the occipital pain in the sphenoid cases; but what has not been mentioned is a very positive temporal or parietal pain in the posterior ethmoid cases. That frequently is considered as an ear pain when only the ethmoid is at fault.

With regard to the sphenoid, I wish to confirm most strongly what has been said by Dr. Butler as to the possibility of probing and irrigating the sphenoid without removing the turbinal. I have had to make this point with many rhinologists and I think there are many men who have not accepted the teaching that this can generally be done if they only try it. One word in respect to the acute cases and how rare it has been in my experience to employ even lavage in the acute involvements of the antrum and indeed of all the accessory cavities after the use of atropin. Atropin naturally suggests to anyone who considers its drying effect as acting to increase the difficulties. I have never seen it used in any case in which it was not decidedly for the good; I have never seen any unfavorable manifestations. I give atropin, $\frac{1}{200}$ grain, until there is moderate dryness of the throat; if it is uncomfortably dry we use steaming and gargles. I have been able to bring such attacks to a speedy relief when there has been sufficient extravasation into the antrum to give me overnight an almost total darkness with transillumination. One word as to transillumination. This was demonstrated in this society by Addinell Hewson in 1885, years before any Europeans made any reference to the subject; and a perfect demonstration of the illumination of the antrum was put forward by him in the court house at the Scranton meeting. Remember that the real test of the true transillumination of the antrum of Highmore is to get your light through the pupil.

Dr. Samuel D. Risley, Philadelphia: I had not expected to discuss these papers, but I thank the Chair for his invitation to do so. An increasing experience and the study of the relationship between a wide group of ocular disturbances and diseases of the sinuses contiguous to the orbits have served only to add to the complexity of the subject. I have been very much interested in Dr. Turner's presentation in his interesting paper, but I can not believe as the result of my own experience that it is quite as simple as was set forth in the paper, especially with reference to the disturbance of ocular motility associated with the disease of the posterior ethmoidal cells. We should not hastily conclude that because the ethmoid cells are diseased and we have at the same time certain manifestations of ocular imbalance that they sustain any etiologic relationship. Many years ago I observed that, in high degrees of refraction error differing widely in the two eyes, and with asymmetrical curvature of the meridians of the cornea, there was likely to be the want of symmetry in the anterior segment of the skull. A large collection of hatter's forms for such patients often showed an almost grotesque variation from what might be regarded as model skulls. I then made a study of the anterior portion of skulls, both wet and dry preparations, in order to ascertain any possible deviation from normal conditions in the size and form of the orbits and the form and location of the sinuses contiguous to the orbits and to what extent this deficiency might interfere with the drainage into the nostrils, and I was profoundly impressed by the significance of these variations. Not only was the capacity of the nostrils markedly modified, but there was a great variation from normal conditions in the scroll bones. I think there is usually a faulty anatomic basis at the foundation of the great liability many patients manifest for nasal and sinus disease; not only this, but that the distorted forms of the orbital walls cause a wide variation both in the length, line of direction and the attachment of the ocular muscles to the eyeball which give a distinct anatomic basis for the wide variety of abnormalities of ocular balance. Therefore, the presence of ethmoidal disease and the insufficiency of the interni, to which Dr. Turner alluded, may both have been due to congenital anatomic conditions, which is to say that the exophoria might have been present before the onset of the ethmoid sinus disease.

Dr. William A. Hitschler, Philadelphia: It seems a far look from accessory sinus disease to the coccyx, but I came across one case in 1896 in which the patient complained of coccygodynia. The sphenoid was found diseased and drainage relieved the coccygodynia. We have all kinds of symptoms from sinus disease, but that struck me as being the queerest. The relations between the eye and the sinuses, or rather between the ophthalmologist and the rhinologist, often assume an embarrassing phase in that the former is frequently insistent that the rhinologist furnish a diagnosis in obscure ocular conditions. The ophthalmologist may have come to the conclusion that there is no reasonable cause for the ocular condition other than sinus disease. Sinus disease may be easily diagnosed in some cases, but in others it is not; and it may be stated that there are cases in which diagnosis cannot be made without operation. In these obscure cases though, where the ophthalmologist is insistent, we should ask him to accept the responsibility for the operation and, may it be said to his credit, he often does.

I should like to mention two cases, one sent me by the late Dr. Reber, in which the patient had scotoma. Repeated examination showed no evidence of sinus disease, but operation was insisted on. The right ethmoid was found filled with polyps. In a short time the patient made a complete recovery. In another case, one of choroiditis, suspicion of the oculist was directed toward the sphenoid. On operation, however, this cavity was found healthy.

Dr. J. Paul Roebuck, Lancaster: The external rectus muscle is supplied by the sixth, the one that elevates the lid is the seventh; we have the optic nerve and we have the third. Now why should we not have in true sinus disease a true nerve lesion occurring no matter where. Call in the neurologist and exclude the sensory nerves.

Dr. Edward Stieren, Pittsburgh: I exhibited a case before the Pittsburgh Ophthalmological Society in the last year, a hospital apprentice in the U. S. Navy with a most violent iridocyclitis in the left eye. The usual clinical causes could be eliminated, syphilis, gonorrhea, etc. The roentgen ray showed the teeth to be normal, but the maxillary antrum on the opposite side was affected. Drainage of this antrum brought relief in two or three days. A recurrence followed a neglect to have the antrum kept clean. Iridocyclitis again appeared in the same eye, which subsided promptly when the antrum was again cleansed. It illustrates that ocular involvement is not always on the same side as the sinus involvement.

Dr. Turner, closing: I am greatly disappointed by the unavoidable absence of Drs. Dickinson and Kneedler, who were to have discussed this paper. For the past ten years, in association with Dr. Dickinson, who is at the head of the nose and throat department of the Mercy Hospital, Pittsburgh, and later with Dr. Kneedler also, I have been studying the various ocular abnormalities occurring when the neighboring ethmoids were diseased. Years ago I became convinced that the changes mentioned in my paper always indicated the presence of certain ethmoidal states. Both of the gentlemen mentioned have operated on a great many of these cases for me, some a simple submucous resection of the septum, others combined with a partial turbinectomy or a curettement of the ethmoid. To my knowledge the findings at operation have never varied from or disproved the diagnosis as made on the basis of the ocular changes described.

In response to the question raised by Dr. Risley, who was one of the first ophthalmologists to become seriously interested in this relationship, I wish to state that the diagnosis of chronic ethmoidal disease by the oculist is not made on the basis of disturbances of ocular motility alone, or in fact by any one evidence. It is the complete picture which is conclusive. In reply to Dr. Randall, I would repeat that the subject matter has been limited entirely to the simple, noninflammatory evidences which are not commonly recognized as being secondary to nasal trouble and which may be in evidence for years before any serious, inflammatory ocular lesions occur.

REACTION AFTER BRONCHOSCOPY*

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Perhaps the most remarkable thing about bronchoscopy is that, properly and carefully done, there is not only no mortality but practically no reaction usually associated with insertion of an aseptic bronchoscope into the normal lung. It is equally true that rough, improper, unskilled or septic methods may cause intense or even fatal reaction.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

To these must be added the fact that prolonged bronchoscopies are dangerous.

After studying in his case records, and in those of Dr. Ellen J. Patterson, the reaction to bronchoscopy under different conditions the author has arrived at certain conclusions which are herein given. From his records he has selected the few following illustrative cases:

Case No. Fbdy. 635.—Girl, aged 19; Jan. 10, 1918; Jefferson Hospital. Pin with glass head was aspirated into the right inferior lower lobe bronchus, seven days before admission. Four days previous to admission, bronchoscopic removal was attempted in another city. No symptoms; asthmatoid wheeze absent. Pin was removed by us in fourteen minutes, fifty-one seconds. Head of pin was in small branch of inferior lobe bronchus; shaft all buried in the lung, external to the bronchial wall. No reaction after bronchoscopy.

Comment.—Our predecessor in the case, though he had rendered the mechanical problem of removal infinitely more difficult, had worked skilfully and carefully without inflicting serious trauma. This, together with the fact that our successful removal was not a long procedure accounts for the absence of trauma.

Case No. Fbdy. 644.—Boy, aged 12; March 26, 1918; Jefferson Hospital. He had aspirated a brass-headed tack while using it as a tooth pick. Showed an asthmatoid wheeze. Foreign body was present thirty-five days. Unsuccessful bronchoscopy of one hour duration under ether was done one week before admission. Head was in middle lobe bronchus; shaft buried up to within 3 mm. of head. Localized bronchitis.

Comment.—Patient was admitted with a temperature of 99.8 which subsided to normal after two days rest in bed. Sharp temperature rise followed the bronchoscopic removal of the foreign body, probably because of the previous irritation to the lower air passages. Temperature dropped to normal on the next day after our successful and brief bronchoscopy. Time: 3 minutes, 25 seconds.

Case No. Fbdy. 645.—Boy, aged 6; Feb. 29, 1918; Jefferson Hospital. Electric lamp from a Whitehead mouth gag was aspirated during a tonsillectomy in a neighboring town. Child developed symptoms of pneumonia. Diagnosis by Dr. D. H. Parmet. Admitted with a temperature of 102.4; very ill; toxic. Pneumonia and atelectasis in the left lung. "Pump handle" temperature preceding admission. Foreign body was removed from the left bronchus in one minute, nine seconds. Rapid fall of temperature, pulse and respiration followed removal of foreign body. Perfect recovery.

Case No. Fbdy. 648.—Girl, aged 5. A nail about 3 cm. in length had been in the left main bronchus nine months. Diagnosis by Dr. G. H. Nofer. Patient had one attack of bronchopneumonia lasting one week. Later symptoms were persistent, violent attacks of coughing, sometimes causing vomiting; loss of weight; failing health; cough. Bronchoscopy showed left bronchus lined with granulation tissue. Point of nail buried in internal left bronchial wall below the carina. Nail was removed without anesthesia in two minutes, twenty-seven seconds. No temperature change followed bronchoscopy. Asthmatoid wheeze was present.

Case No. Fbdy. 653.—Man, aged 43; May 8, 1918; Jefferson Hospital. Band of gold crown was aspirated while in dentist chair, fifteen days previously. Two days later, patient was subjected to a bronchoscopy of six hours' duration. Since then patient had been very hoarse and his throat had been very painful. We passed a bronchoscope and found an intense laryngitis, with patches of exudate and granulation tissue in pharynx, larynx, trachea and bronchi. Motility of left cord was impaired. Ring was found embedded in left lower bronchus at orifice of posterior branch from which it was withdrawn with forceps after version. Time: 1 minute, 49 seconds.

Comment.—There was no reaction in temperature, pulse or respiration in spite of the previous trauma. This was doubtless due to lack of trauma at time of removal and was in marked contrast with the previous bronchoscopy of six hours' duration following which there had been a temperature rise to 101.8 F., with great swelling of the tissues of the neck, paralysis of the tongue and dysphagia. Perfect recovery.

Case No. Fbdy. 658.—Boy, aged 4; June 3, 1918; Jefferson Hospital. He had aspirated a kernel of yellow field corn (maize), six days before removal. Radiographic diagnosis by Dr. C. D. Shaffer. Symptoms were profound dyspnea, cyanosis, fever, peculiar valve-like shutting off of cough. Removed in three minutes, eight seconds. Corn was tightly impacted in the left bronchial orifice. There was thick gummy pus in the trachea.

Comment.—Immediate fall of temperature and pulse rate following bronchoscopy was in marked contrast to the rise of temperature that follows a rough prolonged bronchoscopy. Perfect recovery. It is usual to find a severe acute diffuse bronchitis in cases of maize in the bronchi of children. We have had many such cases.

Case No. Fbdy. 659.—Boy, aged 8; June 4, 1918; Jefferson Hospital. Umbrella tip (steel) in lung probably about six years. Aspiration of foreign body was unknown to parents, but symptoms had been present since the child was about two years of age. Foreign body was discovered in a large clinic, but a very skilful bronchoscopist there failed to remove it. The father, a physician, brought the child to Jefferson Hospital. Symptoms were cough, hemoptysis, purulent expectoration and lack of development. Umbrella tip was removed from the lower right lobe lung tissue in an abscess cavity filled with mushy granulated tissue. Foul pus was liberated after connective tissue barrier was removed. Time: 11 minutes, 48 seconds. There was elevation of temperature, pulse and respiration for seven days following the opening up of the pus cavity. Subsequent history tells of quick return to normal.

Comment.—This case illustrates the effect of opening small vessels and lymphatics to absorption. In recent cases there is seldom any occasion or justification for trauma; but in this case the foreign body was located in a foul septic cavity drained by roundabout minute fistulae. To reach this cavity and get at the foreign body it was necessary to go through a connective tissue barrier. Recovery.

Case No. Fbdy. 664.—Woman, aged 48; July 22, 1918; Jefferson Hospital. Double-pointed tack was aspirated into the left main bronchus five months previous to removal. Radiographic diagnosis was made by Dr. Froberger. Symptoms were cough and copious, yellow, purulent expectoration. Insomnia was caused by coughing. There were dull, aching pain in chest, and inky taste in mouth. Tack was removed under local anesthesia in two minutes, thirty-seven seconds. Temperature reached 99 after bronchoscopy.

Comment.—This case shows how slight is the reaction after a short bronchoscopy under local anesthesia in a previously untouched case, and one in which, though the foreign body had been present for a long time (five months), no trauma was inflicted by bronchoscopy. Other cases by contrast show that had a prolonged bronchoscopy with trauma been done in the presence of the infection, a marked degree of reaction would have resulted.

Case No. Fbdy. 668.—Boy, aged 22 months; Aug. 12, 1918. Tack in right bronchus. Eighty-seven days previous to admission to Jefferson Hospital patient aspirated a carpet tack. Great dyspnea, cyanosis, and laryngeal stridor followed the accident. Patient was taken to a hospital where the presence of a foreign body was doubted and no roentgen-ray examination was made. Patient was later taken to a large western city where a radiograph showed the presence of a tack in the right bronchus. An ether bronchoscopy lasting one hour was done, but the operators were unable to find the tack. Considerable hoarseness followed the bronchoscopy, there was also some temperature rise. The tack was removed in Jefferson Hospital from the right inferior lobe bronchus in two minutes and thirty seconds, without anesthesia, local or general. No temperature, pulse or respiratory elevations occurred. Patient was discharged from the hospital on the second day.

Comment.—Comparative harmlessness of bronchoscopy in children when done quickly and carefully without anesthesia is well illustrated by this case.

CONCLUSIONS

From the foregoing and many similar cases the following conclusions seem justifiable:

1. The chief causes of reaction after bronchoscopy are: (*a*) Rough, unskilled instrumentation; (*b*) septic instruments; (*c*) prolonged bronchoscopy, say over fifteen minutes in an infant under one year, thirty minutes in older children; (*d*) anesthesia, which interferes with bechic expulsion of infective agents and natural culture media; (*e*) too short an interval after a previous bronchoscopy; (*f*) abrasion or even roughening of the epithelium in the presence of an already established purulent process.

2. The causes of reaction are all avoidable except the last enumerated above at *f* and even this is avoidable except in rare instances, if especial care be taken.

We are therefore justified in stating that:

3. A carefully, properly and skilfully done bronchoscopy is associated with little or no reaction in recent cases of foreign body in the bronchi, if no previous bronchoscopy has been recently done.

4. Anything similar to surgical shock is due to undue prolongation of the procedure or to faulty technic.

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DISCUSSION

Dr. F. J. Bishop, Scranton: I have been doing bronchoscopy since last summer. Up to this time I have had seven foreign body cases, including fish bones, tacks and safety pins. My oldest subject was seventy years of age and my youngest three months; this is the safety pin in the right bronchus. I remember in following the teaching of Dr. Jackson, I try to do these things as quickly as possible. In the case of the child of three months with the safety pin I was a little over thirty-three minutes, with no anesthesia. In my little experience there has been up to this time no reaction of any degree. I was very glad to hear Dr. Jackson's paper. The general profession at this time does not appreciate the usefulness of the use of scopes.

ESOPHAGEAL STENOSIS

REPORT OF CASES *

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PITTSBURGH

The extreme gravity of the condition of many cases of esophageal stricture due to the ingestion of caustic alkali in the form of some household cleaning powder and the frequency of the accident (though relatively infrequent in any one person's practice) prompts me to bring the matter to your consideration. This accident has happened usually among children, their ages ranging from 18 months to 12 years, though one case of mine occurred in a man, 65 years of age. The most frequent manners of occurrence are these: a thirsty child finding an empty lye can in the yard containing rain water, or a saucepan in the kitchen containing water or what looks like fruit juice, drinks a portion of the solution. Another way is by the child using a supposedly empty can, or a cup that has been used for holding or measuring the lye or cleansing powder, in which to draw a drink of water without noticing a small amount of the powder clinging to the bottom and sides of the vessel. In any of these cases the corrosive poison produces a destruction of tissue which is followed by a slowly healing ulceration with subsequent contraction of the cicatrix, resulting in a stricture or series of strictures. In the case of the old gentleman referred to, he saw what he supposed was a saucepan containing vinegar for pickling on the stove, and being fond of vinegar drank a little of the solution which proved to be a solution of Red Seal lye, put in the saucepan for cleansing purposes. Many of these cases receive first aid in the form of diluted vinegar, vaselin or oil and recover for the time being sufficiently to swallow food, frequently some solid food. As a rule, whether an antidote has been given or not, they give a history that, after an interval of two weeks or more, swallowing gradually becomes more difficult until a time comes when very little food except liquids can be swallowed, and an occasional day when even liquids are regurgitated. These are grave symptoms and indicate either that the lumen of the esophageal stricture is growing smaller or that the lumen small or large is closed temporarily by a piece of food acting as a foreign body in the lumen. These foreign bodies are sometimes taken care of by nature, either regurgitated or more rarely finally pass through the stricture and the patient promptly forgets about the occurrence. Sometimes the foreign body remains in the esophagus until removed by esophagoscopy.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

The strictures occur sometimes high in the esophagus, just below the crico-pharyngeus and sometimes lower in the esophagus. They may be single, or multiple in a series one below the other. It is not always possible to determine the number of strictures present until the upper ones are dilated sufficiently to engage the bougie in a lower stricture. The gravity of these cases lies in the fact that many of the patients living upon liquids do not realize that they get insufficient food, or the stricture becoming blocked for a period, perhaps more or less intermittently, the patient's life is endangered from "water starvation," a most serious condition.

In a case of stricture of the esophagus uncomplicated by foreign body, with a history of increasing difficulty in swallowing liquids or inability to swallow liquids and saliva, gastrostomy is indicated. The safe treatment of these cases by any method is necessarily a slow process, as rapid dilatation is associated with a very high mortality. Blind bouginage is a reprehensible and dangerous procedure. There is no possible method of determining the thickness of the cicatricial tissue and a rupture of the esophageal wall is more likely than a rupture of the cicatrix and is followed by a rapidly fatal mediastinal emphysema. There is practically no danger of such an accident where the stricture is dilated slowly under the direct guidance of the eye. In a case of stricture of the esophagus with a foreign body obstructing the esophagus, the indications are for esophagoscopy for the removal of the foreign body. Children during treatment have accidentally swallowed foreign bodies, orange seeds, olive pits, cherry stones, bones or a bolus of meat. When patients under treatment are attempting to eat solid food, we request them to try new food upon the day preceding their treatment so that if any particles of food remain above the stricture they can be removed during the esophagoscopy.

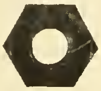
Fig. 1.—Brass nut removed from esophagus of Case 1.

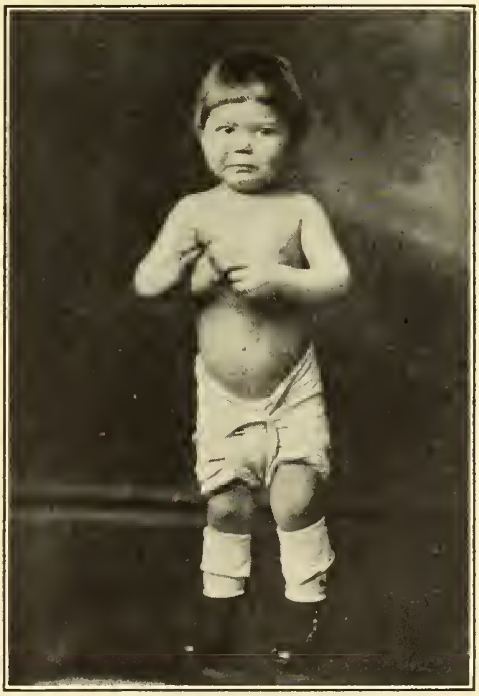
Fig. 2.—Photograph of child, 18 months of age, showing excellent state of nutrition after complete and permanent cure of cicatricial esophageal stricture by esophagoscopic bouginage.

The treatment consists in the gradual dilatation of the esophageal stricture by a series of bougies introduced through the esophagoscope by the direct method without anesthesia. The patients under treatment have all recovered, though the procedure has lasted sometimes over a long period of time, hence the necessity of feeding the patients by gastrostomy tube in order to keep up a high state of nutrition. Stagnation of food in the esophagus would keep up a chronic esophagitis with erosion or ulceration which retards the cure; consequently, feeding the patient by tube puts the esophagus at rest and thus assists treatment. Some of the children have been in hospital wards where treatment is frequently interrupted by quarantine, others come to the hospital as out-patients for treatment and return immediately to their homes.

Case 1.—A. R., girl, 18 months old, was admitted to the Children's Hospital, Dec. 19, 1916, with a history of having swallowed lye Aug. 26, 1916. The family physician, Dr. St. Clair of Latrobe, had washed out the stomach immediately after the accident and dilated the esophagus each week with a rubber tube until just before admission to the hospital when the tube refused to pass. Upon admission the child was very restless, unable to swallow anything, even her saliva, and complained of thirst. An immediate gastrostomy was done by Dr. E. W. Meredith. Esophagoscopy was done by Dr. Chevalier Jackson, Jan. 26, 1917, at which time he removed a piece of gauze from the esophagus which was lodged above the stricture, and which the child had evidently swallowed without the knowledge of the parents. At various treatments following he removed a roll of wool picked from the blanket, a cherry stone, and a fragment of button from the esophagus. On Sept. 24, 1917, after having dilated the upper stricture sufficiently to see below it, I saw a dark foreign body and removed a brass nut (Fig. 1) from the esophagus after which treatment progressed rapidly and the gastrostomy tube was removed Jan. 1, 1918. The gastrostomy wound healed March 2, 1918, and Dr. George W. Grier reported April 2, 1918, "The fluoroscopic examination of A. R. does not show any obstruction in the esophagus or any pathology that we are able to make out. The child swallows without difficulty; the esophagus is normal in appearance."

Remarks.—This child was in the habit of putting everything in her mouth, and it is impossible to tell how long the nut had been in the esophagus. There was a second stricture below the nut, which I dilated, resulting in a complete cure. Figure 2 shows excellent state of nutrition of the child after complete and permanent cure.

Case 2.—M. P., a boy, aged 4 years, was admitted to the Allegheny General Hospital, Oct. 12, 1917, with a history of having swallowed lye, Sept. 15, 1916. The child was treated for months by the family physician by the passage of bougies and tubes until it became difficult to pass any tube and the child showed signs of loss of nutrition, when a gastrostomy was performed by Dr. J. F. Baldwin of Columbus, Ohio. The child is still under treatment and has proved to be a very slow and tedious case, but shows signs of improvement.

Case 3.—G. W., boy, 3 years of age, was admitted to the Western Pennsylvania Hospital, July 8, 1913, with a history of having swallowed lye eight months previous. Upon admission he was suffering from a dangerous degree of "water starvation," having been unable to swallow even water for eight days. Gastrostomy was performed immediately by Dr. J. W. Macfarlane, after which the child was treated by Dr. Chevalier Jackson until Jan. 27, 1914, when he was discharged well. On Aug. 1, 1918, the child's father telegraphed me that he was bringing the child from Cumberland, Md., suffering with acute complete obstruction of the esophagus. The boy was unable to swallow his saliva, and upon passing the esophagoscope I found a piece of meat obstructing the stricture.

Remarks.—It was interesting to see the esophagus after an interval of five years. There was a series of rings about 1 mm. apart becoming smaller as they descended and the meat was lodged in the lowest ring. A perfect functional cure results without the esophagus being restored to normal size. This child had been swallowing perfectly until an unmasticated bolus of large size lodged. Removal of the bolus restored perfect swallowing. Such patients should be told to return promptly in case of lodgment in order to forestall esophagitis from stagnation.

Case 4.—E. K., boy, aged 7 years, was admitted to the Allegheny General Hospital, Sept. 14, 1916, with a history of having swallowed lye, Aug. 20, 1916. He had not been able to swallow anything for four days and was suffering from a dangerous degree of "water starvation," so an immediate gastrostomy was done by Dr. W. A. Dearth. This child is still under treatment, and is now able to swallow mashed potatoes, bread and butter well masticated, and a little meat. His treatment has been frequently interrupted by long periods of quarantine in the children's ward.

Case 5.—N. C., a girl, 4½ years old, was admitted to the Children's Hospital, Jan. 7, 1915, with a history of having swallowed lye nine months previous. She was gradually becoming unable to swallow any food and had lost much weight. After she recovered from a gastrostomy she was treated by bouginage through the esophagoscope until January, 1918, when she had recovered sufficiently to eat everything. This child's treatment was frequently interrupted by long periods of quarantine in the wards.

Dr. G. W. Grier reported Aug. 6, 1918, "I made a fluoroscopic examination of N. C. to determine the condition of the esophagus. There is no obstruction in the esophagus at this time, the bismuth meal running through immediately into the stomach. The lower third of the esophagus is somewhat narrower than the upper part and does not distend when the child takes a large swallow like it does in the upper part, but there is no area of constriction or obstruction any place, just a general narrowing of the esophagus. There is no hesitation in swallowing."

CONCLUSIONS

1. Caustic alkalies such as lye, cleansing powders, washing powders, etc., sold in grocery stores should have a large "poison" label, with antidotal advice, and a large red "scare" label, *"Keep out of reach of children."*

2. Many cases of esophageal stricture are allowed to reach a state of fatal "water starvation" without realization of the danger. A person can exist for a few weeks without food but only a few days without water.

3. Gastrostomy is a relatively minor operation and should be done before the patient reaches the danger point in either food or water starvation.

4. Blind bouginage is dangerous and rarely curative. The operator cannot know whether the distal end of the bougie is engaged in the lumen of the stricture or in a blind pocket.

5. Rapid dilatation is likely to rupture the esophagus and is associated with too high a mortality to be justifiable.

6. With the esophagoscope, esophagitis and ulceration can be seen and treated locally; a filiform bougie on a steel stem can be accurately placed in the lumen of the stricture under the guidance of the eye, and by use of increasing sizes an ultimate cure can be obtained in almost every case, and this without danger and without anesthesia, general or local.

Westinghouse Building.

DISCUSSION

Dr. Chevalier Jackson, Philadelphia: I think some points deserve more emphasis than Dr. Patterson put upon them, especially that matter of avoidable accidents. Lye has been the offender in a great many cases, and it seems to me that the container should have a conspicuous label stating that the contents are poison. There is one container with a label "Caution" on it, but it refers only to the replacement of the lid after using, because the contents will deliquesce. These corrosive poisons should be labeled with skull and cross-bones and ought to have antidotal advice. The presence of foreign bodies in these esophageal stricture cases is not uncommon. We discover in our functionally cured cases, when we look at them, that there is a narrowing at the seat of the stricture. A child can swallow anything without functional trouble through a strictured lumen six millimeters in diameter. After having restored that much of the lumen, it is sometimes better not to attempt to get a larger lumen.

Another point deserving special emphasis is in regard to bouginage. Dr. Patterson spoke of one portion of the ring being cicatricial (illustrating on the blackboard). We may have for instance all this part of the wall cicatricial, but very often there is a little narrow portion of normal esophageal wall. If a bougie is put down blindly we do not know where most of the pressure will be exerted; the normal tissue will give way before the cicatricial and there occurs a rupture of the esophagus into the mediastinum, and this is usually fatal. In blind bouginage we have another danger; the bougie is apt to perforate the bottom of a pocket. The only safe way to treat these cases is by esophagoscopic bouginage. Many of these cases are found to have a series of strictures, and it is impossible to treat them successfully without the aid of sight. All cases of esophageal stenosis ought to have a carefully regulated diet and should be given instruction as to careful mastication.

Dr. H. S. Reger, Jamestown, N. Y.: I have listened with a great deal of interest to the matter of treatment of cases of esophageal stenosis as described by Dr. Patterson. The handling of these cases is one of utmost patience on the part of the patient and parents and physician. They are relatively rare so that when presented with a case for treatment the physician necessarily refers to his textbook for advice. I was struck recently by the meagerness of descriptive symptomatology of this class of cases as contained in our textbooks. The most trying part of the treatment is the time that elapses between the date of the accident and the formation of the stricture. Loeb, in the second volume of his Surgery of the Nose and Throat, advises gastrostomy as soon as feeding becomes difficult by mouth and waiting a month or two until healing of the esophageal mucosa, with stricture formation, has taken place. These patients immediately following the accident are able only to swallow liquids, and in a week or two even this becomes difficult or impossible. Two, three and four efforts at deglutition are often necessary before the child succeeds in forcing so much as a teaspoonful of liquid into the stomach. There is great salivation, and the saliva is often tinged with blood, the latter a sure sign, I think, that bouginage should not be attempted. In a recent case I found a few drops of adrenalin in a teaspoonful of water helped wonderfully in enabling the patient to swallow liquids. It is pitiful to watch the great exhaustion of these little patients after an effort for an hour to swallow minute quantities of liquids.

I heartily agree with Dr. Patterson that after stricture formation has really occurred the passing of bougies blindly should never be attempted. Esophagoscopy is the only sensible and rational treatment.

THE OPERATIVE TECHNIC OF THE INCOMPLETE CATARACT *

JOHN WELSH CROSKEY, M.D.
PHILADELPHIA

A so-called ripe cataract is one that has passed through certain degrees of degeneracy, so that at a definite time the contents of the lens are readily removable from its capsule.

It is impossible to more than guess at the future progress or rate of progress in any form of senile cataract, as it may become opaque in a few days, a few months, a few years, or not at all during the life of the patient. Some light, of much importance to the patient, may, however, be thrown on the subject by making a careful drawing of the appearance of the lens and advising the patient to return in from three to six months, when an estimate can be made from the rate of progress made by comparing the condition of the lens with the picture which was made at the first interview. Changes in the lens may also assist one in determining if the lens is making definite advance towards maturity. As soon as the cataract becomes

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

ripe, the lens mass begins to contract, the anterior chamber recovers its normal depth, the pupillary movements are more regular and less constricted.

It is not to be denied that a uniformly sclerosed lens fully mature is more readily and satisfactorily extracted. When this condition occurs, it naturally would constitute the opportune time for an operation for its removal. This being the case are there other conditions and circumstances when an operation should be undertaken?

When endeavoring to deliver an immature cataract, the soft, glue-like portions of the unripe lens stick to the parts in the anterior chamber and resist ordinary attempts at removal. These small masses sometimes act as foreign bodies, producing irritation and inflammation of the iris and, being transparent at first, they finally become opaque, and lower the visual field.

In India, cataract is more prevalent and occurs at an earlier period in life than it does in this country. The difference in age may be the reason why the operation for the removal of the lens within its capsule, as done in India, is not so successful in this country.

Suppose we have a patient, over fifty years of age, with a partially mature lens in one eye, and a beginning opacity in the other eye. Most of you are under fifty years of age, but it has no doubt occurred to you that time passes much more rapidly as we grow older. As a child, you can recall looking forward to Christmas as an eternity. Each year that is added to your life, time seems to go at a much more rapid pace so that when the half-century mark is reached Christmas comes along almost before you have the gifts of a former Christmas paid for. When time passes so quickly, how important it is not to incur the risk of allowing our patients to spend a single day in blindness. In cases of the kind mentioned, we should operate just as soon as the vision is no longer serviceable, whether the lens is mature or immature.

After an operation it is at least six months before an eye is in condition to refract, so as to get what we might term a permanent correction. In some cases we are not always successful in removing all the cortical mass, or we may have an opaque capsule, so that a secondary operation becomes necessary.

Two patients having immature cataract, operated on the early part of this year, were advised by their family physician to wait until the cataract had become ripe. One, 76 years of age, had been practically blind for three years; the other, 72 years of age, had lost one eye, the result of an unsuccessful attempt to remove the lens, and had been blind in the remaining eye for a period of nine months. In each case an iridectomy was done, and it was necessary to perform secondary operations. Most operators content themselves in attempting a discission, an operation which at all times is difficult to perform satisfactorily due to the fact that there is little or no resistance to the knife. In these cases, instead of trying to perform a discission, an incision was made with a narrow keratome at the sclerocorneal juncture, at the same time puncturing the capsule; de Wecker's scissors were then introduced, enlarging the opening in the capsule and cutting the adhesions that had formed. In the patient, who had only one eye, capsule forceps were introduced into the anterior chamber, and the capsule was withdrawn.

Both cases made excellent recoveries; no inflammation of any account followed and 6/6 vision was obtained in one case and 6/10 in the other.

Whatever success I have had in operating for cataract is due to the skilful and judicious use of a sharp knife, making a clean-cut wound, closely coapted flaps, and no tags of zonula or other obstructions left in the wound, as well as to the manner of producing local anesthesia.

In producing the local anesthesia, a 5 per cent. solution of cocain is dropped into the eye; in about three minutes a small quantity of powdered cocain is placed in the fornix of the lower lid. This is dissolved, by the lacrimal fluid and is carried well down into the tissues.

Local anesthesia produced in this way enables one to perform the whole operation for cataract, absolutely without pain; even in pulling out the iris to do the iridectomy there is no resistance or movements on the patient's part. In the use of powdered cocain, care must be exercised to see that the cornea does not become dry. If this happens there is danger of the anterior epithelium of the cornea blistering or peeling.

The majority of ophthalmic surgeons prefer to operate in a hospital. I am much in favor of operating at the home of the patient, and in the bed in which they are accustomed to sleep.

Elderly people, as a rule, become accustomed to their own beds and are familiar with all the different sounds occurring in their own homes. When under the nervous strain of an operation, when both eyes are bandaged, they are not disturbed by unfamiliar sounds; they are more comfortable and their minds are at ease.

In the use of the bandage, care must be taken not to make too firm pressure so as to displace the relations of the lips of the incision. Outside of infection, the only danger that may occur is pressure on the eyeball, made unconsciously by the patient with his hands; this can be avoided by the use of a three-tailed bandage, tying the ends to the wrists so that the hands may be moved freely but are stopped just before reaching the eye.

In Beard's Ophthalmic Surgery there is published, under his description of cataract extraction, a number of "don'ts." One is as follows: "Don't get shaky, pick up the knife, make a few finger movements with it, and if the hand is turning craven, just call a slight halt, etc." Instead of a slight halt, it should be a permanent one, for any surgeon's hand that turns craven should never incur the risk of destroying the function of so valuable an organ as the human eye.

1909 Chestnut Street.

DISCUSSION

Dr. T. Chalmers Fulton, Philadelphia: The paper presented has much merit; it is terse, original and condensed. *In re* immature cataract, the results attained in his two cases, in patients aged 76 and 72, respectively, were excellent. The powdered cocain as an additional anesthetic is also fine, even considering its tendency to produce dryness of the cornea. My experience teaches me caution, and, allowing that you are forced by nature to wait two Christmasses after the age of fifty, well and good, wait. It is true that after fifty the natural lens flattens and hardens and a chance may favor the operator. The consensus of opinion, however, does not encourage interference with the immature lens. Let us look at a modicum of the bibliography most handy to us. Note the following:

Extraction of Immature Cataract.—"Some operators of extensive experience (Schweiger) hold that the usual criteria of ripeness, opacity of the periphery and absence of the shadow of the iris by lateral illumination, are erroneous in that period when accommodation is annulled by physiologic changes in the lens, that is about the sixtieth year, and the lens may be extracted safely even if it is in part unclouded.

"Operators (McKeown, Wickerkiewicz, Panus, Lippincott) perform extraction of immature cataract by the help of a syringe with which the tenacious cataract material is washed out by the injection of warm distilled water or boric solution.

"If the unripe material is not removed it will swell and may produce disastrous results.

"Most surgeons prefer to wait until the cataract is ripe and thus avoid one source of danger in the operations" (de Schweinitz, p. 400).

Cataracta Intumescens (when the lens gets waterlogged). Fuchs, on immature cataract, says, "Let it alone" (p. 374).

"Absolute opacity is not always demanded, but the lens must separate easily from the capsule and not leave transparent material behind. Sclerosed lenses which are partially transparent will come out clean, while immature cataracts which have only a hard nucleus and whose cortex is in process of opacification leave remnants behind to awaken trouble" (Noyes, p. 446).

"Immaturity of the cataract is always a contraindication for extraction" (Fox, p. 447).

Major Henry Smith, in a paper read before the American Ophthalmological Society, July, 1908, writes: "The treatment of immature cataract, which I practice extensively and of which I am an ardent advocate and regard as the procedure of the future which will leave senile cataract a much rarer condition than it is at present, is extraction of the lens in its capsule, a procedure to which immature cataract is admirably suited. In fact even the normal lens can be extracted in the capsule as easily as the ripe one by those skilled in the art."

Dr. Arnold Knapp was strongly opposed to interference with the immature cataract, but after his visit to Colonel Smith in India he became a convert to Smith's method, when subluxation accompanied the operation. This was Smith's trick, viz., "Tilt the lens and break the capsule loose." (See paper presented before the American Ophthalmological Society, Hot Springs, Va., 1914, "Report of 100 Successive Extractions in Capsule," by Arnold Knapp.)

Ball, in his new work, "Modern Ophthalmology," p. 461, speaking of the two camps of ophthalmic surgeons, is very conservative. "While most surgeons delay the extraction until the lens has become ripe, and others approve of artificial ripening, there are those who favor extraction of immature lenses in persons about or above the age of sixty. One of the strongest advocates of this procedure is Schweiger."

Dr. E. F. Kamerly, Jr., Philadelphia: I wish to congratulate Dr. Croskey for bringing this subject before the society because I conclude, from the number of patients I see that have been told they must wait until the cataract is ripe before anything can be done for them, that the majority of ophthalmologists give this advice. I have been operating for twenty years, without any regrets, on unripe cataracts where the patient is over fifty years of age. In fact, I would prefer to operate on an undeveloped cataract to operating on an overripe one.

Dr. Croskey, closing: With all due regard to Dr. Fulton's voluminous references I will continue to operate on immature cataract in people over fifty years of age, instead of letting them experience a period of blindness.

VARIATIONS IN THE CLINICAL PICTURE OF INTERSTITIAL KERATITIS *

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Interstitial keratitis is an important disease of the eye, not only because of its frequency, not only because of the serious changes in the integrity of the ocular tissues, not only because it jeopardizes the visual acuity of the sufferer and often disables him for months and not infrequently for years, but because of the constitutional nature of the disease. It is generally accepted today that interstitial keratitis is a constitutional disease of a specific nature, although the exciting cause may be of a local character.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

Interstitial keratitis is a manifestation of hereditary syphilis in the first, second or third generation. It is an attenuated form of syphilis. It is usually associated with other clinical manifestations so well described by Hutchinson and known to every ophthalmic surgeon, but not infrequently it is the only clinical sign that leads to the recognition of a constitutional disease that has been transmitted from parent to offspring. In a large majority of cases the specific nature of the disease can be definitely demonstrated by serologic tests. Brinkerhoff found in 107 cases 66 positive Wassermann reactions.[1] Leber found a positive reaction in 74 per cent. Ingersheimer and Fozit[2] found it in practically 100 per cent. With reference to the etiologic nature of interstitial keratitis I am a Unitarian, firmly believing that it is always the result of hereditary syphilis. Carpenter[3] has seen three cases of interstitial keratitis in acquired syphilis. In fact, several cases attributed to acquired syphilis have been recorded in foreign literature; it must, however, be remembered that an individual with congenital taint may have a superadded acquired syphilitic lesion.[4] Interstitial keratitis is pathognomonic of hereditary lues. I prefer to look upon it as a metasyphilitic disease caused by the toxic product of the spirochete circulating in the blood. I am in accord with Fournier, who looks upon this disease as a syphilitic dyscrasia.[5]

It is, however, of considerable interest to note the variations in the clinical picture of the disease that is admittedly caused by one primary constitutional element. One is at a loss to account for these variations. In a general way we must fall back upon the only plausible explanation; namely, the difference in the constitutional make-up of the individual, i. e., his resisting power to the syphilitic hematogenous toxin, and the variance in the virus itself as a result of its passing from one host to another; the change in the culture media influences the development of the spirochetes and their toxic products. The disease occurs in both sexes, in childhood and adult life, and not infrequently even in middle age. In my own limited experience 50 per cent. of the cases occurred in adults between the ages of 17 and 26.

Clinically speaking, the following variations are usually seen: (1) in the objective manifestations of the disease; (2) in the subjective symptoms; (3) in the onset of the disease; (4) in the course and complications of the disease; (5) in the ultimate outcome of the disease.

VARIATIONS IN THE OBJECTIVE SYMPTOMS

All cases of interstitial keratitis manifest themselves by an infiltration into the lamellar tissues of the cornea, but the extent and the density of the infiltration varies in different cases. In some the infiltration is slight, the cornea is seen studded with small whitish gray foci, which become partly confluent and appear as a whitish gray patch. In some cases the infiltration begins at the margin, in others at the center of the cornea. The transparency of the cornea suffers only at the point of infiltration, the rest of the cornea retains its luster. As the disease progresses the entire cornea becomes infiltrated. The loss of the corneal transparency is in direct proportion to the density of the infiltration which is usually most marked at the center. The cornea in some cases is so densely infiltrated that neither iris nor pupil can be seen. In some cases as a result of a densely central infiltration the cornea becomes conical. There is, however, no ulceration, although a fluorescin test will show that the corneal epithelium has suffered some destruction. No vessels are visible to the naked eye in this type of the disease and is thus spoken of as the nonvascular type.

VARIATIONS IN THE VASCULARIZATION OF THE CORNEA

There is a vascular type of this disease where the blood vessels can be seen with the naked eye, but here too the variations are well marked. In some cases very small vessels enter the corneal stroma from the limbus, appearing to the naked eye as delicate red streaks. I look at this vascular phenomenon as nature's method of therapeutics in bringing into the cornea an abundance of blood supply. In fact, clinical observation leads us to the conclusion that all cases of interstitial keratitis are accompanied by this process of blood vessel formation. In the nonvascular type, however, these vessels can only be discerned with the aid of the ophthalmoscope. In some cases the vascularization of the cornea reaches such high degree that it covers the entire cornea, completely hiding the corneal tissue and giving it a red velvety appearance. I recall a case of a young man, aged 21, where the vascularity was so marked that the entire cornea appeared as an aggregation of blood vessels with a vivid red velvety color. There was no light projection. The patient recovered completely and retained useful vision. It seems to me that the deep vascularization is also nature's method to protect the cornea during the dangerous period, as these vessels practically disappear after the disease has run its course, and only some fibrous streaks remain which may be observed with the ophthalmoscope.

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[1] Amer. Jour. Ophthal., May, 1918.
[2] Arch. v. Graefe, 73-74.
[3] Ann. of Ophthal., 1918.
[4] See Mendel's case, Centralbl. f. prac. Augenheilk., 25, p. 10.
[5] Traite des maladies des Yeux, 1, p. 245.

In this connection it is well to mention also the variations in the corneal contour. In some cases it appears normal, in others the cornea is considerably flattened while not infrequently the cornea bulges forward in the center, giving the appearance of a conical cornea. The cornea usually returns to its normal condition, although a change in the refractive status is always to be expected. Not infrequently the corneal bulging is associated with some rise in the intra-ocular tension; I am inclined to believe, however, that the bulging of the cornea is not caused by the high tension, but by the greater infiltration and vascularization in the central part of the cornea. It is also well to recall that there is a milder type of interstitial keratitis where the infiltration appears to be confined to a triangular area, leaving the rest of the cornea unaffected. This runs a milder course and yields more readily to treatment.

VARIATIONS IN THE SUBJECTIVE SYMPTOMS

The subjective symptoms also show a marked degree of variations. While pain is one of the common symptoms of the disease, it is interesting to see how some cases are altogether free from pain; others have pain to a moderate degree and a considerable number suffer severely and require active measures for relief. Apparently the pain has nothing to do with the degree of infiltration, but is probably caused by an associated iritis or cyclitis. The same variations may be observed with regard to photophobia. Of course, pain and photophobia go together. In some cases there is no photophobia; in others the patient feels some inconvenience and has to keep out of the light. But in some cases this symptom is so severe that the patient has to be kept in a dark room, and children bury their faces in the pillow seeking relief from this symptom. The asthenic type of this disease runs its course without pain and without photophobia.

VISUAL DISTURBANCES

One of the principal symptoms of the disease is a reduction in the acuity of vision. Some patients are totally blind when the acme of the disease has been reached. The variations in the reduction of vision can always be accounted for by the degree of corneal infiltration, the density and extent of the infiltrated area and the vascularization thereof. The severity of the case has no direct relation to the visual disturbance. I have seen patients that were blind during the acme of the disease running its course practically free from any pain. On the other hand, in some very severe cases there is some degree of vision even at the height of the disease.

VARIATIONS IN THE ONSET OF THE DISEASE

Interstitial keratitis is often very insidious in its onset, the patient noticing only a slight dimness in vision which gradually increases. There may be no inflammatory symptoms present. Some cases, on the other hand, begin with very severe inflammatory symptoms usually associated with an acute keratitis. Quite often these patients come to the office with the complaint that some foreign body got into the eye which they wish to have removed. This happens so often that one cannot look upon it as merely accidental. A foreign body in the eye often constitutes the local exciting element in the development of this disease. Trauma, however slight, must be considered a potent factor in the causation of this disease in individuals predisposed. Mohr,[6] out of 670 cases, found trauma as the probable cause in all except two. This is probably out of proportion with the findings of ophthalmic surgeons. Some cases begin with a marked conjunctivitis. I have seen recently two cases, one a colored boy aged 9, the other an Italian girl aged 6, that I treated for a week as severe cases of conjunctivitis before I could make the diagnosis of interstitial keratitis. The little girl showed signs of trachoma while the little boy had a marked blepharoconjunctivitis which persisted after the keratitis yielded to treatment. Some cases begin with an iritis or hyperemia of the iris. I recall the case of a wife of a physician that consulted me in 1916 in which I diagnosed an iritis, the instillation of atropin corroborated my diagnosis, yet within ten days she had a fully developed interstitial keratitis. The entire cornea became infiltrated, but cleard up completely after a year's vigorous treatment, leaving practically no opacities and vision restored to 5/6. It is worthy of notice that the clearing process always begins at the periphery while the infiltration process may begin either in the center or at the margin of the cornea. Occasionally interstitial keratitis follows a herpes zoster, and it is difficult in the early stage to differentiate it from a disciform keratitis, which also follows a herpes zoster.

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[6] Amer. Encycl. Ophthal., 9, p. 6795.

VARIATIONS IN THE COURSE AND COMPLICATIONS OF THE DISEASE

Some cases run their course free from any complications. This is especially true of those cases that are free from inflammatory symptoms. Quite often, however, complications are observed, the most frequent of which is iritis. These cases usually give rise to severe pain and require energetic treatment. In a large majority of cases, either part or all of the uveal tract is involved. One of the rarer complications is cataract. I saw one case in 1917, a little girl aged 12, who developed a cataract as I was about ready to discharge her as cured. She was under my care for one year. She had the triangular form of the disease. I have also seen a case of divergent strabismus complicating this disease. I suppose that muscular deviations are not very commonly seen. As to the duration and course of the disease, we can only say that while in the majority of cases the disease is bilateral in a considerable number of cases the disease runs its course without involving the second eye. Some cases, especially the unilateral cases, run their course in from five to ten months. The bilateral cases usually require a longer period. Not infrequently the second eye is in the process of healing while the first eye is still in the stage of inflammation. The second eye in some cases gets well before the first eye, but the result is not necessarily better. Some cases require two or three years' treatment. I have a patient at present under my care who, after three years' treatment, still has a very marked conjunctival injection, but is free from any pain. I cannot explain the persistence of this redness.

VARIATIONS IN THE ULTIMATE OUTCOME OF THE DISEASE

Prognosis in a general way must be considered good. I have never seen a case of total blindness resulting from this disease. I have seen several cases with a very low visual acuity. I shall be very glad to hear the opinion of the members of the section on this point. We have all seen variations in the ultimate outcome of the disease. In some cases vision is restored to almost normal; in others it is markedly reduced. The reduction in vision depends upon the extent, site and density of the corneal opacity. It should be remembered that the healing process in this disease, as in corneal ulcers, is associated with the process of absorption and the process of cicatrization. The cicatrization, however, is interstitial in character, as the cellular organization takes place within the corneal lamella. In the majority of cases useful vision is obtained. We must also note here the marked changes in the refractive status of the healed eye. We find cases that were emmetropic have become myopic. In myopic cases the myopia increases. High degrees of astigmatism are very commonly observed. One patient recently under my care who wore a minus 4 spheric lens had to be given a minus 12 cylinder in the right and a minus 8 cylinder in the left eye, and, strange to say, with nearly normal vision, i. e., 5/6. In the beginning he suffered from diplopia, but after persevering for a week or two the diplopia disappeared and the patient is perfectly comfortable, attending to his occupation doing clerical work. These observations I have made in both the unilateral as well as the bilateral cases.

TREATMENT

I cannot share the opinion of Fuchs[7] that "parenchymatous keratitis in many cases, even under the most careful treatment, runs a course that is not essentially different from what would have been the case without any treatment." He probably meant to emphasize our relative helplessness in shortening the course of the disease. I think treatment of utmost value in combating the noxious elements of the disease. Atropin is of course indispensable as a local agent. In the painful cases, hot compresses and often bandaging the eye is a very useful procedure. Internally, mercury, iodids, arsenic, iron, and thyroid extract are all very useful remedies. In children, cod-liver oil and hypophosphites are excellent remedies to remember. For the removal of the corneal opacity dionin and adrenalin are to be employed. The best result is to be obtained from the alternate use of dionin and adrenalin. I use adrenalin during the day and dionin at night in the form of an ointment or in solution. I do not think salvarsan of great value in this disease; it may, however, be useful in the very severe cases where the pain is very marked. I have not used salvarsan in my cases. I have used tuberculin in several cases; I am not convinced of its therapeutic value even in those cases that gave a positive tuberculin reaction. Neither am I convinced of the therapeutic value of electricity. In both electricity and tuberculin treatment I think "time" is the principal useful agent.

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[7] Fuchs' Ophthalmology, p. 205.

In conclusion, I wish to say that I am not unmindful of the views of Dr. Risley that interstitial keratitis is occasionally caused by metabolic changes. I willingly accept this view, adding, however, that the metabolic changes are secondary to an attenuated syphilitic infection in the second, third or fourth generation.

917 Spruce Street.

DISCUSSION

Dr. Samuel D. Risley, Philadelphia: It is doubtless true that inherited syphilis is responsible for a large percentage, probably the majority, of the cases of interstitial or parenchymatous keratitis, and the corneal disease is usually associated with other stigmata of degeneration which characterize the inherited syphilitic syndrome. This is borne out, furthermore, by the fact that so large a percentage of these patients offer a positive Wassermann. In 107 cases examined at the Wills Hospital by Dr. Brinkerhoff, 66 were positive, but it is a significant fact that 41 were negative. Many of these were my own patients. A considerable group of these corneal cases came to the clinic from a large orphan asylum, and did not always show a positive Wassermann. Indeed, the majority of these children did not recover or progress favorably under mercurial treatment. A considerable percentage of them proved tubercular. In other cases the corneal condition was a local expression of a general systemic state resulting from unfit parentage, and the unfortunate, insanitary, not to say the vicious, environment into which they had been born and in which their years of early childhood had been passed. They were not syphilitic, and were not benefited by mercurials, but did recover under the improved environment of their new home. That is to say, wise care; suitable, well-prepared food, and therapeutic measures designed to improve their general nutrition. It was in this group of cases that I secured such signal results from the administration of the properly prepared thyroid gland of the sheep, iodid of iron and arsenic in addition to a local treatment. A group of these have been published.

These therapeutic measures were adopted in response to the conclusion that, not only had the cornea and other avascular and ectodermic structures suffered under the ban of malnutrition, but that the function of the thyroid and other ductless glands was impaired; that with their important functions impaired a general uplift in metabolism could not reasonably be expected; hence, the feeding of the pulverized thyroid of the sheep.

Dr. G. Edgar Dean, Scranton: These cases hang on in spite of any kind of treatment, and prove the *bete noir* of every ophthalmologist; but I am very glad that Dr. Risley in opening the discussion has pointed out the great importance of malnutrition. Now whether the disease is or is not syphilitic (and I think the percentage he has quoted is not very far out of the way), it is a matter of malnutrition of the cornea. Dr. Brav brought out the matter of correcting refractive errors, but I do not think he laid quite enough stress upon it. I would emphasize still further the underlying cause being a defective refraction including astigmatism. That should be corrected in every case that comes under our treatment. I think we should remember that the changes which occur during the reparative process are practically certain to change the refractive condition, and that will probably call for a change of our refractive correction. One other point in the treatment has not been brought out; and that is, we should relax the accommodation by atropin at least once a day. The course of the disease is very much improved if the eye is relaxed by the used of atropin.

Dr. Edward B. Heckel, Pittsburgh: The writer refers to the varying results in visual acuity after the disease is cured. I, myself, believe when you get a negative Wassermann reaction the case is not necessarily nonsyphilitic. The Wassermann negative does not mean anything. Of course, some changes in the corneal structure resembling interstitial keratitis may be the result of disturbance of metabolic processes. But the resulting visual acuity is not the result wholly of the cornea, because all of these cases, especially the pronounced specific type, show a general uveitis, and after the cornea clears up you can make out distinct changes in the choroid, so that the prognosis in all these cases is more or less doubtful.

Dr. Brav, (closing): I would like to say one word in reference to the tuberculin. I realize that the hygienic treatment is most important and I always try to lay stress on that. As to tuberculin treatment, I have stated that I have used it a good many times, but I am not convinced of its therapeutic value. I realize that in many cases where mercury has not been efficient the administration of tuberculin afterwards did good work, but the chances are if we had begun with tuberculin and followed up with mercury the same results would have been found. All of us had this experience in our practice. I wish to say that, while there is a possibility that tuberculin has a slight therapeutic value, I do not believe tuberculosis is a primary factor in the production of the disease. In all reports received from tuberculosis hospitals one sees very seldom any reference to diseases of the eye which have been directly caused by tuberculosis, and which have been observed at these institutions where thousands of tuberculous patients are seen annually.

LEADING UP TO MODERN OPERATIVE BONE SURGERY *

GEORGE CHAFFEE, M.D.
BINGHAMTON, N. Y.

Until a very few years ago members of the medical profession were quite well satisfied with the results they obtained from treating cases of fracture, whether simple or complicated, by methods which up to ten or twelve years ago were considered right or at least as good as the practice of those days could secure.

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* Read before the Bradford County Medical Society, Jan. 21, 1919.

In former days except in cases of nonunion and in fractures of the patella and olecranon, it was a rare thing for a surgeon to operate upon a case of fracture, and in the cases mentioned the results were often far from satisfactory. Surgeons who were noted for their original work were on the lookout for some better and more satisfactory method of treating bone lesions. Silver wire, although the best agent we possessed for many years, for fixing the fragments and maintaining approximation, yielded its place to kangaroo tendon, which has stood the test of time. The late Dr. John B. Murphy, however, had for several years been using phosphor-bronze wire for this purpose.

Drs. Frank Hamilton and D. Hayes Agnew, both of whom were called to treat President Garfield in his last illness, were considered the leading bone surgeons of their day. Dr. Bigelow of Boston, Dr. Nathan Smith of New Haven, Dr. E. M. Moore of Rochester, N. Y., Dr. Swinbourne of Albany, and Dr. N. Y. Leet of Scranton enjoyed almost phenomenal success in the treatment of fractures by the old method.

To Dr. Lewis S. Pilcher of Brooklyn, N. Y., my esteemed colleague and co-worker, belongs the honor and credit of teaching the profession the true pathology of Colles' fracture and a correct and easy way of reducing the fracture without causing further damage and inflicting unnecessary trauma, and all this without the open operation.

The late Dr. Nicholas Senn, after much original and experimental work, brought out his decalcified bone chips. This agent was used for a time, but is no longer in use.

The late Dr. A. M. Phelps of New York endeavored to graft a portion of bone, supported by the nutrient artery, from the arm of a dog, into the bone of a boy's leg, but met with failure. Dr. Phelps' efforts in this case were honest and most praiseworthy, but at that time the clouds had not cleared, and he met with criticism from both the profession and the daily press.

The works on fractures and dislocations by Frank Hamilton, W. L. Estes, Stimpson, Roberts and others are excellent and served their purpose well in former times. But the times, customs and practice are continually changing.

The accidental discovery of the roentgen ray, its application in the diagnosis of fractures and its aid in suggesting to the surgeon the correct line of procedure in all bone lesions, marks the most important era to date, in bone surgery, the world over. Surgeons were quick to see the advantages of the roentgen ray in many branches of surgical practice outside of bone work. Today the roentgen-ray department of every well-equipped hospital is busy with important work.

Formerly in making a study of the progress of fracture cases by the aid of the roentgen ray the surgeon's first and chief interest was in apposition and alignment. Of late, close observers, however, have been interested in going a step further, and in watching the wonderful changes at different stages of bone formation, the work of the osteoblast in building up and of the osteoclast in tearing down and clearing away material no longer of use, and, finally, the end-results of Nature's perfectly wonderful work, new bone formation.

END-RESULTS

The use of the roentgen ray has enabled observing surgeons to see that end-results of the oldtime closed method of treating fractures are not always as good as they might desire. Results were often bad. They found overlapping and consequent shortening of the limb present more often than they had expected. Bad alignment, angulation and weak, awkward limbs, sometimes of little or no use. There may be a deficiency in the lime salts of the bone, the blood stream may carry a specific germ or shreds of muscle and fascia may be caught between the ends of fragments; the broken bone fails to unite and we have a case of nonunion.

Nature has done her best to repair the injury, but she has been hampered in her efforts. Conditions have not been favorable for her delicate work. She is not willing to allow the case to be recorded as a failure. In her silent way she appeals and signals to the surgeon for aid and assistance, which is really all he can ever do. But when he responds to her call, we have a right to expect that he will come well equipped for his work, with the most complete and modern set of instruments to be found. If the surgeon does this and does his work well, what may we expect and what may we see? Barring infection, we should see Nature cause the sick to be healed, the broken bone to unite and the lame to walk. To the maimed and crippled child who has never been able to walk and play in the sunshine this means a whole lot.

When surgeons, guided and directed by their roentgen-ray findings, began operating to correct bad end-results, with such instruments as they had at hand, their work was tedious and results were often far from satisfactory. Then came the need and call for a more complete and modern set of bone instruments.

SPECIAL INSTRUMENTS — SPECIAL TECHNIC

Geiger, Albee and Frank Hartley have each devised and worked out a complete set of motor-driven instruments for bone work. The wonderful works that are being done today in bone surgery could not be done without slow-running, motor-driven instruments.

There is no branch of surgery so particular and difficult to perform as bone and joint work. To go through the soft parts and operate on the bony framework of the body, to open into and operate upon a joint, and get out without infection and get the results desired, requires the most thorough aseptic precautions and careful attention to details on the part of the surgeon, assistants and nurses. But the relief given and the results obtained from operative treatment are so wonderful and so satisfactory that one feels well repaid for every effort put forth. Geiger says: "It cannot be too often mentioned that bone surgery does require a special technic. Vigorous aseptic precautions in preparation of the operative field, the surgeon and his assistants are absolutely essential."

OPEN METHODS

Estes, Geiger, Albee, Crile, Frank Hartley, Chittenden, Guthrie, Wainwright, Marcy, the Sharpe brothers, the Mayo brothers, and many others have been supporters of the open operative method.

For a number of years the late Dr. John B. Murphy's wonderful bone and joint surgery had attracted attention and admiration all over this planet. The bone and joint work of this shining star of surgery will ever stand out as a prominent part of the magnificent monument which John B. Murphy unconsciously erected to his own memory. He made a close study of Nature and her signals and tried to supply what she lacked and was calling for to finish her work. In doing this, he has left a record of his findings and experience to illumine our pathway so that "he who runs may read."

Great credit is due Lane of London for his pioneer work in establishing the open method of treating fractures and for the perfect operative technic which he has developed, but I do not believe that the metal plate is to be compared in any way with the autogenous bone graft in the operative treatment of vicious fractures.

EDUCATION

It is not so very long ago that some members of the medical profession and the public held that the knife was to be used only as a last resort in the treatment of cancer. Today we all know that every vestige of cancer should be removed at the earliest possible moment. It required a campaign of education to inform the public that tuberculosis is a communicable but preventable disease; that the open-air life with sunshine, good food, and proper hygienic care are the essentials in the treatment of that disease.

When we first began operating for the relief of appendicitis the medical profession was divided into two classes, the conservatives and radicals, on the question: Shall we operate or shall we wait? Today the public knows very well that as soon as the family physician is sure of his diagnosis, the sooner the patient is placed in a hospital and the operation is performed, the better are the chances for recovery. There is no discussion of the question today. It is settled for all time. The answer is: Operate, and do it now.

FRACTURES

Today there is a difference of opinion in the medical profession on the question of the treatment of broken bones, and of course the public, as yet, is not fully informed. The question is: Shall a broken long bone and certain others be treated by the nonoperative method or by the modern open method? Is an operation necessary? Some medical men say we will try the old or closed method first, and if it is not satisfactory we can try the open operative method later on. If the closed nonoperative method is not a success, it means loss of time, in some cases months, and later on, if an operation is decided upon, this means a much more tedious and difficult operation for both surgeon and patient. Delay may not jeopardize the life of the patient unless the bone becomes infected, but, if an operation is necessary and the patient is not given the benefit of it, someone is certainly taking chances on at least a possible disability, and possibly the patient may become crippled for life. In such cases, who is responsible? The family physician and the bone surgeon whom he calls in consultation are to a certain extent responsible for the line of treatment carried out. If this matter is fully explained to a patient he is not at all likely to take any chances on going through life carrying a crooked and disabled arm, wrist or hand, or a thigh bone with one inch or more of shortening, if such a disability and deformity can possibly be prevented, and in most cases it can be prevented.

TIME

The time to settle the question of operative or nonoperative treatment of a broken bone is as soon as possible after the accident causing the fracture has taken place. How can the question be settled? By the aid of the roentgen ray and a consultation with an expert bone surgeon.

It is clearly the duty of the medical profession at all times to do all in its power to instruct and inform the public on matters of public health, prevention, safety, and the spread of disease. In the matter of advising the public in regard to the treatment of broken bones the medical profession, and especially the family physician, supported by an expert bone surgeon, can do a world of good in the way of preventing disability and disastrous end-results, which includes earning powers and economic conditions as well, and these points will be observed and noted by the public.

When the family physician has been called to a case of broken bone or a dislocation and made his patient comfortable with a temporary dressing, he should not rest until he has brought to his aid the roentgen ray and counsel of a bone surgeon. It is no reflection upon the ability of the family physician to do this. It is the right and proper thing for him to do. In doing so, he is looking after and guarding the very best interests of his patient and in turn is protecting himself, for such a course divides responsibility. We should never forget that the most important part of these cases is the patient.

As time goes on and we gain more from experience, we find that more fracture cases are being operated on. This does not mean, however, that all cases should be operated on, neither does it mean that operative treatment should be left as a last resort in cases where operation is clearly indicated. If a case is one requiring operation, in justice to all this fact should be determined with as little delay as possible.

Fractures of all long bones are best treated in hospitals, where the attending surgeon or his assistant can daily make careful observation and notes as to the condition of the circulation and nerve supply, pain, swelling and color of the injured limb, especially of the hand and fingers, in fractures of the arm. This cannot be done with the patient off in the country.

It is not safe to allow the patients with fracture of the humerus or of one or both bones of the forearm, after a dressing has been applied, to go to their homes off in the country and remain there for from two to five days without being examined by the attending surgeon. In that time, under certain conditions, irreparable damage to the arm may take place. No surgeon can do full justice to himself or to his patient, who does not examine these cases daily during the first two weeks of treatment, and some cases should be seen twice daily.

I believe that the day is not far distant when the family physician will fully realize that in cases of long bone fractures the best results are to be obtained from hospital treatment, and that he will be unwilling to take the responsibility of treating these cases in their homes.

TRANSPORTATION

This brings us to the matter of transportation; the motor ambulance has settled the question of transportation. It has reduced the time, distance and pain of transportation to a minimum. We no longer hesitate to transport our fracture cases, but a very comfortable temporary dressing, that will fix the fragments, without a preliminary circular bandage with an abundance of cotton, should be applied. If it is a compound fracture, apply a 50 per cent. solution of iodin, a pad of sterile gauze and over that strips of adhesive plaster, but do not encircle the limb with adhesive.

Today, even in very remote districts the farmer has his car, and in case of an accident to his family or neighbor, he will quickly improvise an ambulance, and the patient is soon on his way to the hospital. When our boys and nurses have returned from the front they will give valuable aid in transporting our injured to hospitals.

Dr. W. L. Estes of South Bethlehem, than whom we have no higher or more reliable authority says:

> "The Committee on Fractures of the American Surgical Association collected 1,745 cases of fractures, the end-results of which were ascertained and the patients examined. Of these, 1,358 cases were nonoperative and 387 were operative cases; 258 cases of simple fracture were operated on, and 129 cases of compound fracture were operated on. A little over 25 per cent. of the cases were operated on.
>
> "I find that of 97 major fractures of long bones treated in St. Luke's Hospital last year, we operated on 35, about 37 per cent.
>
> "The open method when adopted should be employed early. It may be used at any age period except in senile cases whenever a skiagram shows a

deformity or a position of the fragments which obviously cannot be reduced or when proper efforts at reduction and retention have proved unavailing.

"The sooner the adjustment or setting is done after the injury, the better and quicker the recovery.

"Reparative processes begin early, much earlier than surgeons have hitherto seemed to think. If setting the fracture is delayed, what already has been done by natural processes will be destroyed and the second attempt to do the osteocementation will not be as quick nor as energetic.

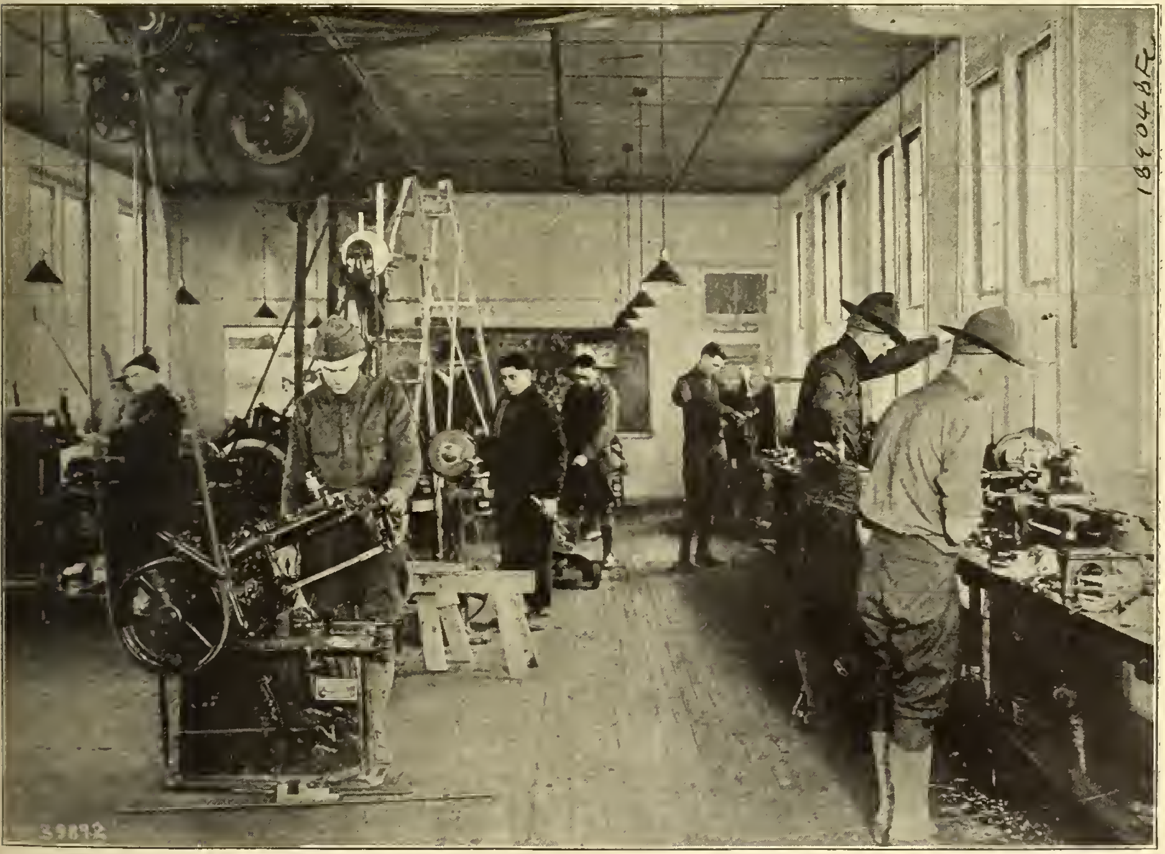
"Open operations for simple fractures should be undertaken only by experienced surgeons who are thoroughly equipped by training and who have proper instruments and apparatus to meet all the possible indications of the operation."

In writing and presenting this paper my object has been two-fold: (1) To bring this question in proper form to the attention of the medical profession and to point out or indicate what I consider the attitude of the profession should be in regard to the treatment of broken bones; (2) to inform the public of the wonderful advances and changes which are being made in bone surgery and of the many benefits along this line, to which the public is justly entitled.

In doing this I feel that I have done my duty up to this point in the way of trying to prevent disability and disastrous end-results in these unfortunate fracture cases.

It has been a pleasure for me to meet with you and to read this paper before the Medical Society of Old Bradford, my native county, where I practiced for three years at LeRaysville. If any suggestions contained in my paper with the cooperation of your members may be the means of giving to any of your patients more perfect and useful limbs, with which to engage in the constant struggle of life, I shall feel that my effort has not been in vain. And with your further cooperation, I trust that we may be able to make Binghamton headquarters for bone surgery work.

100 Hawley Street.



U. S. Official Photograph, from Underwood and Underwood.

HELPING THE WOUNDED TO HELP THEMSELVES

Wounded soldiers taking a course in one of the machine shops of the reconstruction school at the Walter Reed Hospital, Washington, D. C.

SELECTIONS

FEDERAL COURT NOT CONCERNED WITH VACCINATION CASE

(*Gillin v. Board of Public Education of City of Philadelphia, et al.* (*U. S.*), *250 Fed. R. 649*)

The United States District Court, Eastern District of Pennsylvania, dismisses for want of equity, and with costs to the defendants, the bill of complaint in this case, wherein the plaintiff sought in a federal court relief from the laws and decisions of the courts of Pennsylvania because, having refused to have his children vaccinated as required, they were denied admission to the public schools and he was convicted of having violated the state law requiring parents to send their children to school. The court says that counsel for the plaintiff was widely known to have given much thought to this legislation and to be familiar with its subject-matter in all its features, and the argument addressed to the court was earnest and exhaustive of all that was worth being urged in argument. The general situation was thus presented: Part of the legislation in question has for its object the requirement of a school education. Resistance to its commands invites the imposition of a penalty. Another part of such legislation has for its motive the preservation of the public health by the requirement of vaccination, thus preventing the spread of infectious diseases. The latter provision has no penal sanction. The provision, however, is that unvaccinated pupils may be denied admission to the public schools. The predicament is thus presented: A parent (the plaintiff) refuses to send his children to a school. He thereby incurs a penalty. He refuses to subject them to vaccination. He thereby incurs no penalty. The same parent (the plaintiff) sends his children to school. They are unvaccinated, and admission is denied them. The parent, not having sent them to a school, is then subjected to the penalty. The plaintiff complained of this as the imposition of a penalty for his refusal to comply with the vaccination requirement, which carries no penalty.

It is to be first observed that all the law that was involved (at least primarily) was state law. The person to whom the law might be held to apply was a citizen of the state, the authority and meaning of the laws of which were involved. No federal question was raised, nor has a federal court (in this presentation of the question) jurisdiction of the subject-matter. Jurisdiction was asserted only by virtue of the fourteenth amendment to the Constitution of the United States, which prohibits states from depriving citizens of life, liberty or property, without due process of law. Through his right to "due process of law," the plaintiff had the right to have the state tribunals pass on his defense, and to have the case conducted through all its appellate stages until it reached the highest court of the state, and, if any federal, constitutional or other question was involved, to carry it to the Supreme Court of the United States. There was no complaint of a denial of this right. His real complaint was that he was charged with noncompliance with the requirements of the laws of the state, and that the statutory penalty was imposed by a magistrate. From this judgment he appealed to the proper court sitting for the county. That court affirmed the judgment. From this he appealed to the superior court, with a like result. He then made his appeal to the supreme court of the state, and the result was, so far as the state tribunals might have relieved him, a final disappointment. Of what did he now complain? Not that he was denied "due process of law," or even that his defense was not fully and fairly heard and the cause impartially determined; but his real complaint was that the questions of law should have been determined otherwise than as decided. He then again refused compliance with the state statutes, and, anticipating, as he was of course justified in doing, that the law of the case would be found as it was before found to be, he asked this court to stay the hands of the state authorities. This court has not followed the argument by which the state courts were asserted to be convicted of error in the rulings made. This court is willing to assume that like rulings would again be made. It bases its refusal to interfere on the sufficient ground that the fourteenth amendment contains neither mandate nor authority for it to interfere, and it seems to it that the statement of the proposition as presented suggests its own supporting argument.

GAUZE SPONGE EXPELLED FROM THE URINARY BLADDER

Dr. G. Paul Laroque, Richmond, Va., at the annual meeting of the Southern Surgical Association, said: "Five years ago a woman was operated on and was told that the appendix and left ovary were removed and the uterus suspended. No drainage was employed. She remained perfectly well for five years and was then seized suddenly with agonizing bladder tenesmus, spasmodic incontinence of urine, and an enormous quantity of foul-smelling pus. Roentgen examination for stone was negative; there were no clinical evidences on examination. Cystostomy was not attempted on account of the violence of pain and the inability to hold water in the bladder. The body temperature varied from normal to 101 F.; the pulse varied from normal to 100. Vaginal examination detected a small mass in the right fornix.

There were no menstrual symptoms. On two occasions the patient had retention of urine, and the catheter withdrew on the first occasion a quart of foul-smelling pus containing urine, and a week later, when an attempt was made to catheterize her again, a piece of gauze was discovered in the urethra. This was pulled out and proved to be a surgical gauze sponge about 2 inches wide and 10 inches long. The symptoms immediately subsided. In a week's time she was well, cystostomy revealing a very small, almost completely healed fistula in the right side of the bladder. The mass could no longer be felt in the pelvis. In a week the patient left the hospital, and has remained perfectly well.

A NEW BULK BACTERIN CONTAINER

The doctor who uses bacterins in quantity will be interested in a new form of bulk container which has been perfected, holding a considerable quantity of the bacterin, 5 mil or 20 mil, and so arranged that any desired quantity of its contents may be withdrawn without danger of contaminating the rest. Various types have appeared, the chief objection to them all being that the perforable cork could be, and was, easily worked loose in frequent handling. This danger is at last eliminated in the excellent container recently announced by The Abbott Laboratories of Chicago, Ill. The perforable rubber diaphragm is incorporated into the rubber cork, which is inserted tightly into the neck of the bottle. Over this is placed a metal cap, with a single opening through which the needle may be inserted, sealing automatically on withdrawal, and this cap is then crimped down tightly around the collar of the bottle. It is impossible for it to work loose and would present quite a problem if you were to try to remove it intentionally. Thus is the original sterility of the contents permanently assured. Over all is placed another metal cap, nicely machined so that it fits snugly and presents a pleasing appearance, besides adding further protection.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

WALTER F. DONALDSON, M.D., SECRETARY, 8103 Jenkins Arcade Building, Pittsburgh, Pa.

IS COMPULSORY HEALTH INSURANCE INEVITABLE?

Many opponents of health insurance insist that the propaganda in its favor gains much strength from European countries where the expense of its maintenance has already been added to the cost of production, and that such interests would like to add the expense of health insurance to the products of their American competition. Whatever its source may be, the strength and growth of the idea is enormous. We are reliably informed that in Illinois labor and capital have at last united in its favor, and that the defeat of the scheme in that states rests with the Illinois State Medical Society. Proponents of the plan have not considered its effect on the physician's economic welfare. Who, then, shall consider our interests? We were not consulted nor represented in the formation of the plan for workmen's compensation, and if we wait for an engraved invitation we will not confer with those who formulate Pennsylvania's health insurance laws. We must be sufficiently foresighted to prepare a plan that will do the greatest good possible to the greatest number possible under such laws; then, if Pennsylvania takes this additional step toward European paternalism the physicians of the commonwealth will not be entirely ignored. If, on the other hand, we remain idle during the next two years, Pennsylvania's proposed health insurance laws will prove inadequate and unfair. Our motto should be "Preparedness in victory or defeat." Beware of old General Apathy.

BRAIN FOOD

Recently we listened to proponents of compulsory health insurance proclaim eloquently that the family physician in cities with a population of 50,000 or more was a thing of the past, and that therefore the confidential relationship between a patient and the physician of his choice could in no sense be essential. We heard one proponent repeat that "old wheeze" that sickness was the cause of poverty, and another say that he was not interested in the medical care of paupers, but that health insurance was essential for the worker. Both speakers were paid investigators who proclaimed disinterestedness. Thoughtful physicians will note that paid investigators of this type are rarely silent and that they find or create many opportunities to impress audiences that are ignorant of the subject, or that may have leanings toward state socialism, and away from individualism.

FOREWARNED

Officers and committeemen of the Medical Society of the State of Pennsylvania for the year 1918-1919 are herewith respectfully reminded that reports and recommendations pertaining to their official activities will be in order within the next four months. Chairmen, bestir yourselves and your committees.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported up to March 21:

ALLEGHENY: *New Members*—R. J. Phillips, 67 Amanda Ave., Mt. Oliver Sta.; Joseph F. Thoms, 1515 Towne St., N. S.; Harry J. Herzstein, 1229 Wylie Ave.; Harold B. Gardner, Highland Bldg.; Lou M. Mitchell, Jenkins Arcade Bldg. (by transfer from Westmoreland County Society); Walter G. Hayden, 6655 Ridgeville St., Pittsburgh; D. W. Cunningham, Fairchance. *Removal*—Robert O. Blacklock, from McKeesport to Buffalo, N. Y. *Deaths*—Pierson C. Cope (Univ. of Pittsburgh, '90) in Braddock, February 23, aged 57, from the effects of a gunshot wound of the head believed to have been self-inflicted, while despondent over ill health; William G. McKinney (Univ. of Penna., '94) in Pittsburgh, February 25, aged 58, from pneumonia following influenza; Alonzo Dow Husted (Univ. of Worcester, Cleveland, '87) in Pittsburgh, February 25, aged 63.

BEAVER: *New Member*—Darius C. Moore, Monaca.

BUTLER: *New Member*—Willard L. DeWolf, 207 S. McKean St., Butler.

BRADFORD: *New Member*—Charles H. DeWan, Packer Hospital, Sayre.

CAMBRIA: *New Members*—Charles C. Custer, 524 Locust St.; Merritt B. Schultz, 600 Park Ave.; William S. Griffith, 600 Franklin St.; Moses Claybourne, 213 Adam St.; William J. George, 305 Pine St., Johnstown; Arthur H. McAnulty, Nanty Glo.

CHESTER: *Removal*—Oscar J. Klevan from Unionville to West Chester.

CLEARFIELD: *New Member*—Oscar E. Henritzy, Winburne.

COLUMBIA: *Death*—John H. Bowman (Univ. of Penna., '88) in Berwick, March 15, aged 61, from Bright's disease.

Dauphin: *New Members*—John F. Good, New Cumberland (Cumberland Co.); M. H. Layton, Jr., 930 W. 6th St., Harrisburg. *Removal*—Joseph W. Shaffer, from Millville to Harrisburg.

Elk: *Removal*—Jacob K. Le Van from St. Marys to Carlisle (Cumberland Co.).

Fayette: *New Member*—John V. McAninch, Alicia.

Lackawanna: *New Members*—Leo A. Nealon, State Hospital; John F. Kelly, Scranton; Gregory L. Higgins, Carbondale; Ralph H. Armstrong, Peckville. *Removal*—Frank J. Budd from Los Angeles, Calif., to Scranton.

Luzerne: *New Member* — Richard J. Burke, Wilkes-Barre.

Lycoming: *Death*—Martin L. Mench (Univ. of Penna., '66) of Jersey Shore, February 17, aged 74, after an illness of several months.

McKean: *Removal*—E. M. McLean from Eldred to Bradford.

Montgomery: *New Members*—Wallace W. Dill, Norristown; H. W. Hassell, Bridgeport (by transfer from Philadelphia County Medical Society).

Montour: *New Member*—Reid Nebinger, Danville.

Northampton: *New Member*—William A. Smythe, East Bethlehem. *Removal*—Charles McClure from South Bethlehem to Boston, Mass. *Death*—Nathan Ziegenfuss (Jeff. Med. Coll., '92) in South Bethlehem, February 24, aged 69.

Philadelphia: *Deaths*—Max Staller (Univ. of Ill., Coll. of Med., '95) in Philadelphia, March 2, aged 41, from cancer of the throat; James Tyson (Univ. of Penna., '63) in Philadelphia, February 21, aged 77; William H. Wells (Jeff. Med. Coll., '91) in Philadelphia, February 26, aged 59, from a complication of diseases. *Removal*—H. S. Kinne from Philadelphia to Chester (Delaware Co.).

Schuylkill: *New Member* — Harry K. Hobbs, Shenandoah.

Venango: *Removal*—S. A. Slater from Oil City to Worthington, Minn.

Washington: *New Members*—Loyal H. Moore, W. J. Shidler, Houston; R. L. E. Ashbrook, Washington; G. Alden Perkins, Burgettstown; Loyal G. Lutz, Roscoe.

York: *Removal*—P. A. Noll from Glen Rock to York. *Deaths*—Louise Harding (Univ. of Ill. Coll. of Med., '05) in York, February 5, aged 40; Charles G. Hildebrand (Coll. Phys. and Surg., Baltimore, '81) in Loganville, February 25, aged 59, from cerebral hemorrhage.

PAYMENT OF PER CAPITA ASSESSMENT

The *per capita* assessment for the year 1918 has been received from component county societies since Feb. 25, 1919, as follows:

1919				
3/ 5	Wyoming (Previously remitted, now paid)		6873–6874	$5.50
3/12	Cambria	110	6875	2.75

The *per capita* assessment for the year 1919 has been received from component county societies as follows:

2/25	Adams	14–18	1520–1524	$13.75
2/25	Mifflin	25	1525	2.75
2/25	Dauphin	66–73	1526–1533	22.00
2/25	Clinton	10–12	1534–1536	8.25
2/25	Mercer	26–35	1537–1546	27.50
2/25	Butler	18–28	1547–1557	30.25
2/26	Franklin	31–38	1558–1565	22.00
2/26	Wayne	20–22	1566–1568	8.25
2/27	Butler	29–32	1569–1572	11.00
2/27	Center	19, 22	1573–1574	5.50
2/28	Somerset	16	1575	2.75
2/28	Venango	22	1576	2.75
2/28	Allegheny	9, 72, 76 116–223	1577–1687	305.25
3/ 3	Blair	32–35	1688–1691	11.00
3/ 3	Luzerne	97–146	1692–1741	137.50
3/ 3	Venango	23	1742	2.75
3/ 4	Dauphin	74–83	1743–1752	27.50
3/ 4	Berks	54–72	1753–1771	52.25
3/ 4	Northampton	67–96	1772–1801	82.50
3/ 4	Washington	23–47	1802–1826	68.75
3/ 5	Northumberland	27–31	1827–1831	13.75
3/ 5	Cambria	1–71	1832–1902	195.25
3/ 6	Wayne	23–24	1903–1904	5.50
3/ 6	Juniata	5	1905	2.75
3/ 6	Montour	17–18	1906–1907	5.50
3/ 6	Franklin	39–48	1908–1917	27.50
3/ 6	Venango	24	1918	2.75
3/ 7	Westmoreland	46–61	1919–1934	44.00
3/ 7	Butler	33–38	1935–1940	16.50
3/ 7	Venango	25–34	1941–1950	27.50
3/ 7	Dauphin	84–87	1951–1954	11.00
3/ 7	Allegheny	224–275	1955–2006	143.00
3/ 8	Venango	35–36	2007–2008	5.50
3/ 8	McKean	1–34	2009–2042	93.50
3/10	McKean	35–42	2043–2050	22.00
3/10	Venango	37	2051	2.75
3/10	Lycoming	39–72	2052–2085	93.50
3/10	York	1–96	2086–2181	264.00
3/11	Crawford	1–23	2182–2204	63.25
3/11	Mifflin	26	2205	2.75
3/11	Snyder	13–16	2206–2209	11.00
3/11	Cumberland	14–23	2210–2219	27.50
3/11	Armstrong	20–34	2220–2234	41.25
3/11	Venango	39–41	2235–2237	8.25
3/12	Monroe	7–8	2238–2239	5.50
3/12	Potter	1–9	2240–2248	24.75
3/13	Allegheny	276–334	2249–2307	162.25
3/13	Luzerne	147–158	2308–2319	33.00
3/13	Cumberland	24	2320	2.75
3/13	Butler	39–44	2321–2326	16.50
3/14	Somerset	17	2327	2.75
3/14	Venango	38	2328	2.75
3/15	Union	18	2329	2.75
3/15	Center	23–24	2330–2331	5.50
3/15	Blair	36–50	2332–2346	41.25
3/15	Venango	42	2347	2.75
3/15	Clarion	30–31	2348–2349	5.50
3/15	Montgomery	107–115	2350–2358	24.75
3/15	Clearfield	1–38	2359–2396	104.50
3/15	Lancaster	1–96	2397–2492	264.00
3/17	Beaver	26–33	2493–2500	22.00
3/17	Somerset	18	2501	2.75
3/17	Wayne	25–26	2502–2503	5.50
3/17	Clinton	13–14	2504–2505	5.50
3/17	Lackawanna	42–63	2506–2527	60.50
3/17	Venango	43–45	2528–2530	8.25
3/18	Adams	19–22	2531–2534	11.00
3/18	Mifflin	27	2535	2.75
3/18	Fayette	87–100	2536–2549	38.50
3/18	Lackawanna	64–101	2550–2587	104.50
3/19	Columbia	25–29	2588–2592	13.75
3/20	Delaware	54–74	2593–2613	57.75
3/20	Columbia	30–34	2614–2618	13.75
3/20	Schuylkill	27–66	2619–2658	110.00
3/20	Washington	48–91	2659–2702	121.00
3/20	Venango	46	2703	2.75
3/21	Mercer	36–45	2704–2713	27.50
3/21	Juniata	6	2714	2.75
3/21	Lehigh	43–70	2715–2742	77.00
3/21	Bradford	31–43	2743–2755	35.75

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

APRIL, 1919

REPORTS OF COUNTY SOCIETIES

"Each component society shall designate one of its members to act as reporter for THE JOURNAL, who shall furnish such reports of the meetings of his society and such professional news as may be thought desirable for publication."—EXTRACT FROM BY-LAWS.

For the fifteen months, January, 1918, to March, 1919, reports have been furnished as follows: Philadelphia County Medical Society, fourteen; Lebanon and Warren, eight each; Berks and Delaware, four each; Blair, Franklin and Northampton, three each; Elk, Huntingdon and Somerset, two each; Allegheny, Bucks, Carbon, Clarion, Clearfield, Jefferson, Juniata and Lehigh, one each. Reporters from some of the other societies have forwarded papers read before their societies and deemed worthy of publication.

Physicians were greatly overworked during the past year, by reason of the absence of so many in the service as well as the unusual amount of sickness due to the influenza epidemic, and society work was more or less neglected. Our members have missed the stimulus and help afforded by their society meetings and are returning to the county society gatherings now that conditions are nearer normal just as naturally as the robins have returned from the Southland. Let us hope that each society will hold its meetings regularly with good scientific programs and see that the meetings are promptly reported for THE JOURNAL.

The report of a really valuable meeting may be of little interest to readers outside of that county if it simply relates that "Dr. Richard Doe read a most interesting and valuable paper on influenza, which elicited a very spirited discussion," but the general reader would be glad to know what drugs and methods the author had found useless or harmful and what line of treatment he had found most helpful.

THE JOURNAL will be glad to have each society submit for publication the best papers read at its meetings. Typewritten manuscripts are always preferred, and most publications decline all others, and yet a short practical paper, well prepared and plainly written in ink, is more likely to be accepted for publication than the lengthy typewritten paper giving history and symptoms largely copied from some textbook. Communications and items of interest to the profession are desired from each section of the state. See advertising page xii.

PRELIMINARY REPORT OF THE JOINT CONFERENCE COMMITTEE OF THE THREE STATE MEDICAL SOCIETIES OF PENNSYLVANIA

Gentlemen:—The chairman of your committee respectfully submits the preliminary work done in Harrisburg, in house and senate, up to the present time.

Conferences have been held with the several departments of the state, relative to measures affecting the medical profession, with assurance of cooperation in so far as possible.

HOUSE AND SENATE BILLS

The commission appointed to make a sickness survey of the state and report its findings to the legislature of 1919 has submitted such report, but no bill on health insurance will be presented this session. This commission has been continued to report to the legislature in 1921, when the medical profession must be prepared to consider a health insurance measure.

Workmen's Compensation Amendment. — Delay in the introduction of a bill by the chairman of the Workmen's Compensation Board, amending the Workmen's Compensation Act, makes it impossible to predict what such amendment affecting the medical profession will be. An amendment to Section 306, Clause E, will be presented by a member of the house, embodying the many points affecting the income and operation of the physician. (See succeeding editorial.)

House Bill 415, amending the Optometry Act introduced by Representative Sinclair, adds licensed physicians to the examining board. This is a very desirable addition, and the bill is favored by the committee.

House Bill 497, prohibiting advertisements of treatment in genito-urinary disease, is favored by the committee.

House Bill 376, forbidding advertising or selling anything to limit the number of births in the commonwealth, is a very commendable act, favored by the committee.

House Bill 510 is the Osteopathy Bill, increasing the powers and possibilities of osteopathic physicians. This bill is now in committee and unless amended should die on the calendar. It is not favored by the committee. (See succeeding editorial.)

Senate Bill 248, amending the Nurses State Registration Board, displaces the physicians now on the board and creates a board consisting of nurses only. This act, if passed, would create a wide breach between the nursing profession and the medical profession and its passage in its present condition is not favored by the committee. (Since writing the above this bill has passed the senate and is now in the house.)

Senate Bill 217, creating a board of licensure of drugless therapeutics, gives the same power to this cult as now pertains to regular practicing physicians under the Bureau of Medical Education and Licensure. It is a very vicious act and is in the senate committee, where it will probably remain.

House Bill 661 regulates the disposition of bodies unclaimed and which are to be sent to the anatomical board for material for dissecting purposes. The bill increases the time of retention by undertakers, and would thus render the material unfit for use. This is a mercenary measure to benefit the undertakers and will be opposed by the committee.

The foregoing brief résumé sufficiently indicates that the representative of the committee has information relative to all measures that are passing through the house and senate. So far, we have been successful, but final success will require the backing of the entire profession who are asked to urge their respective representatives and senators to cooperate with a joint conference committee, thereby assisting the profession wherever possible.

The chairman wishes the members of the profession to express their opinion freely and offer advice as to bills for or against the interest of the medical profession.

Very respectfully submitted,
Frederick L. Van Sickle,
Chairman, Joint Conference Committee.
March 18, 1919.

LONELINESS AS A FACTOR IN THE PSYCHONEUROSES

In the language of recent psychiatry the expression "shut-in-personality" has been much used. The term well expresses the mental horizon of a good many people — those who live narrow lives with few social contacts and few interests, those who live largely alone. in, with or for themselves. Many such individuals are so chiefly because of their temperament or make-up; but there are others who have some desire to learn and keep in touch with things and people, and who are by reason of circumstances, which they are largely unable to control, denied such opportunity. Loneliness is very common in large cities. Here the social life is not simple and natural as in the country and smaller towns; many find they cannot make the social contacts they desire and deny themselves practically all social intercourse and live unto themselves, often following a temperamental bent. Their mental condition is unwholesome. There is not that succession of emotions and ideas which are so desirable for the maintenance and promotion of mental health. Such individuals can easily nurse a grievance or enter too frequently into self-analysis. They are certainly much more prone to the various neuroses and psychoses than those who have satisfactory social and mental contact sufficient in degree, number and kind.

No form of philanthropy today, perhaps, offers a greater field than that which has for its object the promotion of healthful, innocent and inexpensive amusements for people in our large cities. Social workers in many places are fully alive to this fact and do a great deal to overcome city loneliness. It is high time physicians take a more active part in this important work.

The "shut-in" is sober, serious and entirely too self-conscious. He needs in play to be taught to forget and above all things to know how to laugh. Let us physicians do what we can to help him. Let us try to help some of those who are not sick enough, or too sick and discouraged to come to our offices to consult us. Let us join in the community force which already exists to overcome loneliness and to make for wholesome diversion, recreations and sports. Of the wrong kind there are already too many. T. D.

PROPOSED AMENDMENTS TO OSTEOPATHIC LAW

Senator Daix of Philadelphia on March 11 introduced Senate Bill No. 446, amending the present law regulating the practice of osteopathy, and the bill at this writing, April 2, is in the hands of Senate Committee on Public Health and Sanitation. The amendments are as follows:

Section 11. That Section 11 of said Act which reads as follows:

"Section 11. The license provided for in this Act shall authorize the holder thereof to practice osteopathy as taught and practiced in the legally incorporated reputable colleges of osteopathy as provided for in this Act," is hereby amended to read as follows:

Section 11. The license provided for in this Act shall authorize the holder thereof to practice osteopathy as taught and practiced in the legally incorporated reputable colleges of osteopathy as provided for in this Act. Whenever in any of the laws of this commonwealth the term physician, medical attendant, medical practitioner, medical inspector, practitioner of medicine or term of like effect is used the same shall be taken and be construed to include an osteopathic physician licensed under this Act.

Section 12. That Section 12 of said Act, which reads as follows:

"Section 12. Osteopathic physicians shall observe and be subject to all state and municipal regulations relating to the control of contagious diseases, the reporting and certifying of births and deaths, and all matters pertaining to public health the same as physicians of other schools, and such reports shall be accepted by the officers or department to whom the same are made," is hereby amended to read as follows:

Section 12. Osteopathic physicians shall observe and be subject to all state and municipal regulations relating to the control of contagious diseases, the reporting and certifying of births and deaths and all matters pertaining to public health the same as physicians of other schools. Whenever under any law of this state a medical examination, a medical certificate or medical report is required to be made by any medical inspector or physician licensed by the laws of this state such examination, certificate or report made by an osteopathic physician licensed under this Act shall be accepted by the officers or department to whom the same are made with like force and effect as are medical examinations, medical certificates and medical reports made by physicians licensed by the Bureau of Medical Education and Licensure of this state.

AN AMENDMENT TO THE WORKMEN'S COMPENSATION LAW

The proposed Act containing amendments to the Compensation Law substitutes the following for Sub-Section (e):

(e) At the time of the accident and during thirty days after the disability resulting therefrom has begun, the employer shall furnish reasonable surgical, medical and hospital services, medicines and supplies as and when needed, to a value not exceeding one hundred and fifty dollars, unless the employee refuses to allow them to be furnished by the employer. Provided, however, that the Board may at any time, upon petition of the employee, order the employer to furnish such services to a value not exceeding an additional two hundred and fifty dollars for such further period after the expiration of the above thirty days, as the Board shall direct, if it be shown that such services are necessary for the cure, rehabilitation or proper care of such employee. The compensation for such medical, surgical and hospital services, and the cost of medicines and supplies shall not in any case exceed the prevailing charge in the community in which the services are rendered or the medicines and supplies are furnished, for like medical or surgical services to other individuals, or the usual ward charges for hospital services.

The employer shall pay to any person, corporation, hospital or other institution, incorporated or otherwise, the value of such services, medicines or supplies ascertained as herein provided which have been furnished at any time during the period within which the employer is required by this section, or is ordered by the Board to furnish such services, medicines or supplies to an employee sent to such person, corporation, hospital or institution for treatment, medicines or supplies by the employer or by any person who has contracted with the employer to furnish the same, or who has furnished any such services, medicines and supplies as are needed in an emergency, wherein the absence of the employer or the condition of the employee makes it impossible for such employer to provide such services, medicines and supplies or for the employee to procure them for himself.

If an employee shall refuse medical, surgical and hospital services tendered at any time by the employer, the Board, upon petition of the employer, may order such employee to submit to necessary medical or surgical treatment at the expense of the employer by a physician or surgeon or at a hospital or other institution designated by the Board. The refusal or neglect of the employee to submit to such treatment ordered by the Board, either before or after an agreement or an award, shall deprive him of the right to compensation under this article during the continuance of such refusal or neglect, and the period of such refusal or neglect shall be deducted from the period during which compensation would otherwise be payable. If the employee shall refuse reasonable surgical, medical and hospital services, medicines and supplies tendered him at any time by his employer, he shall forfeit all right to compensation for any additional or increased injury or any incapacity or increase in incapacity shown to have resulted from such refusal.

STATE NEWS ITEMS

MARRIED

Dr. William Hewson, Philadelphia, and Miss Nancy Evans Stokes, Moorestown, March 1.

Dr. Floyd Elwood Keene, Captain, M. C., U. S. Army, Philadelphia, and Miss Martha Bussiere, at Chatel-Cuyon, France, January 27.

Dr. Morris A. Slocum, Lieutenant, M. C., U. S. Army, Pittsburgh, and Mlle. Clementine Marie Louise Mistiaen of Antwerp, Belgium, in London, March 1.

DIED

Dr. George Aloysius Cunningham (Jefferson Med. Coll., '04) in Philadelphia, February 21, aged 39, from pneumonia.

Dr. Harmar D. Moore (Jefferson Med. Coll., '73) in New Lexington, February 7.

Dr. James S. Kugler (Eclectic Med. Coll. of Pennsylvania, Philadelphia, '69) in Sharon, January 28, aged 89.

Dr. Charles Nicholas Van Denberge (Albany (N. Y.) Med. Coll., '97) in Philadelphia, January 22, aged 41, from acute pyonephritis.

Dr. Herbert Lawson Williams (Univ. of Pittsburgh, '18) in Pittsburgh, February 3, aged 24, from the effects of a gunshot wound.

Dr. William P. Painter (Jefferson Med. Coll., '75) in Darby, February 14, aged 76.

Dr. John Cleon Kerr, Lieutenant, M. C., U. S. Army (Univ. of Pittsburgh, '12) in Hazlewood, Pittsburgh, October 27, aged 31, from bronchopneumonia.

Dr. John Collier Laidley (Univ. of Pennsylvania, '95) in Carmichaels, February 25, aged 50, from influenza.

Dr. John Henry Myers (Baltimore Med. Coll., '83) in Lewistown, March 6, of rheumatic trouble and paralysis.

ITEMS

Lieut-Col. Daniel J. McCarthy, Philadelphia, returned from France, March 5.

Dr. C. J. Hamme, Dover, is a member of the Good Roads Association of York County.

Major John J. Sweeney, Doylestown, is still with the American Expeditionary Forces.

Capt. Charles R. Snyder, Marysville, Perry County, is in France with the First Army Corps.

Dr. Jacob M. Cahan, Philadelphia, has received his discharge and resumed practice at 930 North Eleventh Street.

Dr. Orlando H. Petty, lieutenant in the Naval Reserve Force, of Philadelphia, has been awarded the Distinguished Service Cross for extraordinary heroism.

Typhoid Fever at Mechanicsburg.—Nineteen cases of typhoid fever with two deaths were reported in Mechanicsburg, March 28.

Dr. Marianna Taylor, Wayne, has been placed in charge of the medical side of the Friends' Reconstruction Work in France.

The Bureau of Medical Education and Licensure will hold its next examinations in Philadelphia and Pittsburgh on July 8 and 9.

Dr. John L. Marchand, Irwin, has returned from Prinzapolka, Nicaragua, Central America, where he has been for several years.

Major Edward R. Plank, one time secretary of the Cumberland County Medical Society, is now commanding officer of the 316th Field Hospital.

Dr. Maurice T. Leary, Ridgway, secretary of the Elk County Medical Society, has been appointed county medical inspector for the department of health.

The Jewish Hospital, Philadelphia, has been remembered in the will of the late Moses J. Blitz, by a bequest of $30,000 for the maintenance of free beds.

Lieut. William W. Lazarus, who was with the 109th Field Artillery in France, has returned to Tunkhannock, having been wounded while in the service.

The Lackawanna and Luzerne County Societies held a joint meeting on the evening of April 2 at the home of the latter society, the former society furnishing the program.

Dr. Percival M. Kerr, Elwyn, medical attaché of Admiral Wilson, and former member of the Methodist Hospital Unit, has returned from France, where he has been since October, 1917.

Dr. Ernest Laplace, who for the past seven months has been in command of the Post Hospital at Fort Monroe, Va., has obtained his discharge from the U. S. Army and has returned to Philadelphia.

The Pennsylvania Department of Labor and Industry held its eighth conference of Industrial Physicians and Surgeons in Pittsburgh, March 14. The proceedings will be published later in The Journal.

Dr. S. McClintock Hamill, Philadelphia, will be one of the eight delegates from this country to the international conference on public health and child welfare at Cannes, France, the first week in April.

Dr. J. D. Leebron, Philadelphia, has been appointed chief of the Pediatric Clinic in the medical department of Temple University, and assistant pediatrist to the Samaritan and Garretson hospitals at Philadelphia.

Dr. Fred H. Bloomhardt, Altoona, recently promoted from major in the 321st Infantry to lieutenant colonel, has just been selected by the general staff of the army in France to take a postgraduate course in medicine at the Sorbonne.

Dr. W. N. Armstrong, Lock Haven, who has been in the sanitary service of the medical department with the army at Fort Oglethorpe since last summer, has been honorably discharged with the rank of lieutenant and has returned home.

Capt. Jesse S. DeMuth of the Oto-Laryngological Service, Base Hospital at Camp Zachary Taylor, Ky., has favored the Journal with a copy of *Over-The-Top*, a sixteen-page weekly, published by and for the soldier-patients and personnel at that camp.

Dr. Robert H. Jeffrey, Uniontown, at the meeting of the Fayette County Society, on March 6, gave a very vivid description of his prison life in Germany, beginning with the day he was captured until his return to England after armistice was signed.

Hospital for Adams County. — Mr. John M. Warner will erect a hospital with a capacity for 100 patients on land recently used as an army camp site. Churches and lodges are expected to furnish the building, and it is hoped to secure an endowment fund.

Capt. Frank Croser Knowles, Philadelphia, has been promoted to major by General Pershing in recognition of his two years' service with the Pennsylvania Base Hospital Unit No. 10. He was in charge of the dermatological work of the unit.

Dr. Dorothy Child, Germantown, who recently returned from service in France as a civilian relief worker, was on March 7 appointed chief of the division of child welfare of the State Department of Health, succeeding Dr. Samuel McC. Hamill, resigned.

Drs. Elward Martin and John D. McLean, commissioner and assistant commissioner of health of Pennsylvania, were guests of honor at a dinner given by the Philadelphia Clinical Association and other medical organizations in and near Philadelphia, at the Bellevue-Stratford, April 10.

Nathan C. Schaeffer, state superintendent of public instruction, and ex-officio secretary of the Bureau of Medical Education and Licensure, died at his home in Lancaster, March 15. Dr. Schaeffer had been superintendent for twenty-six years, and the public schools of the state suspended session at the hour of his funeral.

Dr. Tyson's Will.—By the will of the late Dr. James Tyson, Philadelphia, conditional bequests are made as follows: Rush Hospital for Consumption and Allied Diseases, $3,000; Publication Fund of the College of Physicians of Philadelphia, $500; Mutual Aid Association of the Philadelphia County Medical Society, $500.

The Pennsylvania Board of Pharmacy examined twenty-six candidates for registration as pharmacists at Harrisburg, March 1, of which nineteen were successful. Forty-four were examined for assistant pharmacists, of which twenty-nine passed. The next examination will be given in Pittsburgh and Philadelphia on June 6 and 7.

Colonel Edward Martin, state commissioner of health, has arranged for a series of summer camps for the medical inspectors of his department with the idea of extending them for other attachés of his department. The county medical inspectors will be required to attend the camps where instruction in sanitation and specialized lines will be given.

The White Haven Sanatorium cared for 738 patients during the year 1918, of which number 281 were reported improved. In the cases of 22 patients the disease was arrested. At the meeting of the directors on March 10 Dr. Lawrence F. Flick was reelected president of the Sanatorium Association, and Dr. Joseph Walsh and Mr. M. S. Kemmerer, vice-presidents.

Girls in Medical Unit.—Dr. Caroline M. Purnell, Philadelphia, speaking to the Independent Square Auxiliary of the Red Cross, March 11, said: "There were no demountable rims for our girls overseas. We did our own repairing in the four hospitals and eight dispensaries that we established, and we worked from 8 o'clock in the morning until 9 o'clock at night. We had to do it, and we did. That is all the reason that we can assign."

Lieut. Lloyd E. Wurster, Montoursville, is spending a thirty-day furlough with his father at his home near Linden. Dr. Wurster, who was attached to the British Army, and who has been awarded the Military Cross by the British government, lost his left leg, and had the right leg fractured, as well as other injuries, on October 10, 1918. Sixty-six American army medical officers and men have been decorated by the British government for bravery and distinguished service in the war, the list including, besides Lieutenant Wurster, the following Pennsylvanians: Wilmot Ayres, Bedford; Andrew Knox, Thomas L. Doyle and Charles Q. Worth, Philadelphia; William B. Evans, Chester; Torrance J. Hanlon, Donora.

Dr. J. N. Sprowls, second vice-president of the Medical Society of the State of Pennsylvania, was seriously injured when his automobile went over an embankment near Taylorstown, February 27. His left hip was fractured and left knee lacerated. Dr. Sprowls is now in the City Hospital at Washington.

Pennsylvania January Examinations.—Mr. Nathan C. Schaeffer, secretary of the Pennsylvania Bureau of Medical Education and Licensure, reports the oral and written examination held at Philadelphia, Jan. 7-11, 1919. The examinations covered 5 subjects and included 50 questions. An average of 75 per cent. was required to pass. Of the 49 candidates examined, 40 passed and 9 failed. The following colleges were represented:

College PASSED	Year Grad.	No. Licensed
University of Louisville	(1910)	1
Baltimore Medical College	(1909)	1
Maryland Medical College	(1900)	1
Boston University	(1912)	1
Hahnemann Med. Coll Hosp. Phila.	(1916) (1917, 2)	3
Jefferson M. Coll.	(1913) (1915) (1916, 2) (1917, 7)	11
Medico-Chirurgical College of Philadelphia	(1916)	1
Temple University	(1916) (1917, 4)	5
University of Pennsylvania	(1889) (1916) (1917, 8)	10
University of Pittsburgh	(1917)	2
Woman's Medical College of Pennsylvania	(1917)	3
University of Bombay	(1913)	1

FAILED	Year Grad.	Per Cent.
Chicago Homeopathic Medical College	(1902)	60
University of Louisville	(1917)	69.8
Washington University	(1905)	72
Western Reserve University	(1901)	69
Medico-Chirurgical College of Philadelphia	(1916)	73
Jefferson Medical College	(1917)	72.6
University of Pennsylvania	(1917)	69.8, 70.8
University of Kharkov	(1905)	39.2

Mr. Schaeffer also reports that 3 candidates were licensed through reciprocity from Jan. 23 to Feb. 13, 1919. The following colleges were represented:

College LICENSED THROUGH RECIPROCITY	Year Grad.	Reciprocity with
Western Reserve University	(1916)	Ohio
Jefferson Medical College	(1916)	N. Carolina
University of Pennsylvania	(1916)	Dist. Colum.

Dr. Royer Honored.—On Founder's Day, February 20, Ursinus College conferred the honorary degree of Doctor of Science on B. Franklin Royer. In presenting him for the honor, Dr. E. A. Krusen made the following remarks: Today we have the pleasure of presenting for academic honors, Benjamin Franklin Royer, M.D. Dr. Royer is a son of Pennsylvania. He received his general education and his professional training almost entirely in institutions of this state, and for nearly twenty years has rendered distinguished public service within the bounds of this commonwealth in combating disease and promoting physical health. For four and a half years he served as head of the Municipal Hospital for Contagious Diseases, Philadelphia. During this time he visited similar hospitals in England and subsequently planned the present Municipal Hospital for the city of Philadelphia. For ten years he served as associate and as chief medical inspector in the State Department of Health. During the past year, as acting commissioner of health, he administered the laws in fighting, with vigor and effect, the worst epidemic of disease in modern times, and organized relief for the sick in many parts of the state with great dispatch, saving many lives and alleviating much suffering. On account of his professional ability, his scientific and popular contributions to the literature of medicine, his services to humanity and his worth as a citizen, we present him in order that you may confer on him the degree of Doctor of Science.

GENERAL NEWS ITEMS

Honor Roll.—Sixteen Wisconsin county societies reported all their members as having paid 1919 dues before the end of January.

Watertown, N. Y., has appropriated $3,000 for the services of a full-time health officer and $600 for a part-time public health nurse.

Dr. Alice Hamilton, Chicago, has been appointed assistant professor of industrial medicine in Harvard Medical School. She is the first woman to receive a faculty appointment at the Harvard Medical School.

"Dope Fiends" are increasing in numbers faster in wet than in dry cities, according to the statement made in Washington by Representative Henry T. Rainey, Illinois, chairman of the committee appointed by the Treasury Department to investigate the use of narcotic drugs.

Golden Jubilee Victory Celebration Meeting.—The fiftieth annual meeting of the American Medical Editors' Association will be held at the Marlborough-Blenheim Hotel, Atlantic City, on Monday and Tuesday, June 9 and 10, and will take the form of a semicentennial celebration and a victory meeting.

Medical Officers Casualty List.—According to advices from Washington, under date of March 26, casualties among American medical officers in France, from March 13 were as follows: 46 killed in action, 22 died of wounds, 12 died of accident and other causes, 101 died of disease, 4 lost at sea, 7 missing in action, 38 taken prisoners and 212 wounded in action.

Reception to American Physicians in London.—A reception was given to 100 American Army medical officers in London, March 19. These officers had arrived in London to take up postgraduate work in England. Sir Humphrey D. Rolleston, president of the Royal Society of Medicine, acted as toastmaster, and among other speakers were Sir Rickman J. Godlee, president of the Royal College of Surgeons; Sir Norman Moore, president of the Royal College of Physicians, and Sir William Arbuthnot Lane.

Memorial Hospital at Reims.—The French government will deed to the American Fund for French Wounded ground in the environs of Reims on which a great American hospital will be erected. The sum of $100,000 has already been guaranteed for the erection of the building. What remains to be accomplished is the raising of an endowment fund for the hospital. This will be achieved by perpetual endowments of memorial beds by individuals. Offers of money for such beds are already reaching the headquarters of the fund from Americans at home and in France.

A Joint Influenza Committee has been created to study the epidemic and to make comparable, so far as possible, the influenza data gathered by the government departments. The members of this committee, as designated by the Surgeon-General of the Army, the Surgeon-General of the Navy, the Surgeon-General of the Public Health Service, and the Director of the Census, are: Dr. William H. Davis, chairman, and Mr. C. S. Sloane, representing the Bureau of the Census; Dr. Wade H. Frost and Mr. Edgar Sydenstricker, of the Public Health Service; Colonel D. C. Howard, Colonel F. F. Russell and Lieutenant Colonel A. G. Love, United States Army; Lieutenant Commander J. R. Phelps and Surgeon Carroll Fox, United States Navy.

Influenza in Japan.—There were 10,000,000 cases of influenza in Japan in October, November and December, according to the report of the home department officials. This means that one in every seven of the population has been attacked.

The International Conference on Public Health and Child Welfare held a session at Cannes, France, the first week in April. The members of the American commission to this conference were Drs. S. McC. Hamill, president of the Child Federation of Philadelphia; William Welch, of Johns Hopkins Medical School; L. Emmett Holt, professor of children's diseases at Columbia University; Hermann M. Biggs, commissioner of health of New York State; Simon Flexner, director of Rockefeller Institute; Wickliffe Rose, director general of the international health board of the Rockefeller Institute; Edmund R. Baldwin, director of the Trudeau Sanitarium for Tuberculosis at Saranac Lake, N. Y.; and F. Talbot, instructor of children's diseases at the Harvard University Medical School.

Volunteer Medical Service Corps.—The Council of National Defense authorizes the following: Characterizing the work of the Volunteer Medical Service Corps and the Medical Section of the Council of National Defense as "a very striking demonstration of the American spirit," Dr. Edward P. Davis, president of the corps, paid a tribute to the patriotism of American civilian doctors at the final meeting of the Central Governing Board of the corps held in Washington, March 14, prior to the termination of its wartime activities, April 1. A report submitted at the meeting showed that nearly 70,000 applications have been received from physicians for membership in the corps, of which 56,540 had been received and coded prior to the signing of the armistice, Nov. 11, 1918. Qualifications of these civilian doctors, classified and coded on cards, will be placed in the Library of the Surgeon-General of the Army, where they will be accessible to all governmental departments for all time to come. With the approximately 40,000 medical officers additional, who are in the Army, Navy and Public Health Service, practically all the able-bodied, eligible doctors of the country will be listed, available for the nation's needs. Usually there are said to be about 150,000 physicians in the United States, but this total includes a large proportion of superannuated, disabled or ineligible.

World Red Cross Plans Triumph Over Human Ills and Disease.—"Peace on earth, good will to men," the ideal toward which civilization has been struggling through all the ages, will not seem so far off following the world-wide extension of Red Cross activities now being planned at Cannes, France, by representatives of the Red Cross organizations of France, England, Japan, Italy and the United States. Certainly no other body of men ever set out to shape a program that might be expected to bring about something at least approximating this ideal condition, for the supreme aim of this Red Cross committee is the reduction of disease and distress and the betterment of mankind everywhere. Thirty days after peace shall have been declared by the momentous conference now reshaping the world's destinies at Versailles, delegates from the Red Cross organizations of the world will assemble at Geneva for the purpose of considering the program to be submitted by the committee now working at Cannes, France—a program the fulfillment of which should go a long way toward promoting that future harmony among the nations that the peace makers are hoping for. No denying the first requisite to contentment in an individual or a people is good health, and as the promotion of good health the world over is the chief objective of the Red Cross plan the important relation of the latter to the future peace of the world at once becomes apparent.

War Department Aims to Build Large Medical Corps.—Plans to build up a large medical reserve corps, including all members of the profession who have served creditably during the war, were disclosed, March 26, by the War Department. Commissions in the reserve are being offered officers of the medical department who are being discharged from the service upon the completion of their duties connected with the emergency. Officers discharged are being requested to apply for the appointment, as they will be a contributing support to the formation of a reserve corps that will put the medical profession of the country on an organized basis in preparation for any future contingency which may arise. It is proposed to give these officers, so far as possible, rank in the reserve at least equal to that they held at the time of their discharge.

Regulations Governing the Scientific Research Fund.—The United States Interdepartmental Social Hygiene Board prescribes the following rules and regulations in conformity with that part of section 6, Chapter XV, Public 193, 65th Congress, which provides that the sum of $100,000 "shall be paid to such universities, colleges, or other suitable institutions as in the judgment of the Interdepartmental Social Hygiene Board are qualified for scientific research for the purpose of discovering, in accordance with the rules and regulations prescribed by the Interdepartmental Social Hygiene Board, more effective medical measures in the treatment and prevention of venereal diseases."

1. Appropriations from this fund will be made only to universities, colleges, or other suitable institutions that give satisfactory evidence of possessing a staff of scientific experts and an equipment of scientific apparatus, supplies, and resources that will guarantee that the researches undertaken will be carried out under approved scientific conditions and in conformity with scientific methods.

2. Appropriations for this fund for scientific research will be made only for definite investigations that are described by the proposers in sufficient detail to satisfy the Interdepartmental Social Hygiene Board that there is a justifiable expectation that these researches "will discover more effective medical measures in the prevention and treatment of venereal diseases."

3. The universities, colleges, or other institutions proposing researches and asking for appropriations will furnish information on the following subjects:

(*a*) Name of institution requesting appropriation.

(*b*) Name, office and address of official representative of this institution.

(*c*) Title concisely descriptive of research proposed.

(*d*) Laboratory in which research is to be carried out.

(*e*) List of more important scientific publications from this laboratory.

(*f*) Name and concise statement of the scientific training of the laboratory chief or director, or other individual responsible for the scientific policy of the laboratory.

(*g*) Laboratotry staff, giving names, degrees, etc.

(*h*) Laboratory equipment and facilities, with a concise statement indicating scientific and working capacity of the laboratory, and cooperating laboratories, departments and agencies.

(*i*) Description of research proposed; outline plan in sufficient detail to show clearly its scientific character and justify the expectation that it will discover "more effective medical measures in the prevention and treatment of venereal diseases." Include references to important scientific literature bearing on research proposed.

(*j*) Probable cost. Give general items covering the necessary equipment and supplies, with an estimate of the probable cost of preparing and printing a report. Should not include the salaries of scientific investigators, but may include salaries for technical assistants.

(*k*) Will this institution be able to carry on the research proposed if it receives no financial aid from the Interdepartmental Social Hygiene Board?

4. Universities, colleges and other institutions asking for appropriations will furnish the board with a budget made out on forms supplied by the board and will make an accounting of their disbursements in conformity with the rules of the Comptroller of the Treasury of the United States Government.—Address communications to Dr. T. A. Storey, Executive Secretary, United States Interdepartmental Social Hygiene Board, Room 11, No. 1800 Virginia Avenue, N. W., Washington, D. C.

BULLETIN EXCERPTS

THE MEDICAL REPORTER, CHESTER

Health Insurance

The war which has absorbed the interest of medical men for the past two years to the almost complete exclusion of everything else is now happily over. This gives time for the consideration of another very important matter, namely, the Health Insurance Act.

Thus far medical journals and medical societies have limited the discussion of this matter to the effect the proposed act will have on physicians. We would like the field of discussion broadened so as to include the effects of the proposed measure on the people of the state generally. If it is a good thing, physicians cannot afford to oppose it on the ground that it affects their pecuniary interests unfavorably. The interests that are supporting the measure are various. Some labor organizations include compulsory health insurance among their demands. It is a step toward state socialism and socialists give it their support on general grounds. Its administration would involve a great many new appointments which might fall into the hands of the politicians and thus the measure is likely to receive their support. (Incidentally we may say that we are informed that the governor of the state approves of some form of health insurance.) In addition to the classes already named as supporting the act there are, no doubt, many people who honestly believe that it would result in benefit to a large class now disabled through preventable disease and would increase the efficiency of this class, improve the health of the people of the state generally and prevent economic waste.

These are certainly desirable points to be gained and we suppose if physicians believed such a result would be gained by the passage of the measure they would accept their own share of the sacrifice involved without a word.

The medical profession has never lacked altruism and has never stood in the way of any measure that would prevent disease and thus do away with the necessity for physician's services. Nearly the whole science of preventive medicine is the result of the work of physicians. But in the case of health insurance we wish to be shown. The measure has never been tried in this country. We wish to have presented to us the evidence that the act will benefit the people generally before we agree to sacrifice our own interests in the cause. It will not do to show the need of an improvement in the health of the people. That is admitted. It must be shown that this act will accomplish this purpose. This evidence has not so far been presented.

MEDICAL BULLETIN, LEHIGH

Ladies' Auxiliary

The regular meeting of the Ladies' Auxiliary of the Lehigh County Medical Society was held March 18, 1919, in the third-floor room of the library.

It was well attended and business was disposed of with dispatch.

Enthusiasm in our society is running at a high mark and the society bids well to outrun its aim and ambition, socially and financially.

The next regular meeting of the Ladies' Auxiliary will be held at the same place, the third Tuesday of the month, April 15, 1919.

We urge all members to be present and will be glad to welcome any new members.

If possible, we would like each member to make a special effort to bring a new member with her. All wives, daughters, mothers, sisters and daughters-in-law of physicians belonging to the Lehigh County Medical Society are eligible to the auxiliary. Ladies, do not wait to be asked; come and join our business and social activities.

Don't forget the third Tuesday, April 15, 1919.

You have stayed at home many a second Tuesday of the month to answer the phone while the Doctor attended his meeting—allow him to answer it on the third Tuesday.

THE WEEKLY BULLETIN, ALLEGHENY

The Medical Profession

So often, in pursuing our life's work, we unconsciously live and perform our duties after a system laid down in the beginning of our studies, and while in practice we conform to the ideals, when called on to define our position it is difficult for us to do so.

The State Secretary has again called our attention to the principles of medical ethics of the American Medical Association, which, under the very first section, states: "A profession has for its prime object the service it can render to humanity; reward or financial gain should be a subordinate consideration. The practice of medicine is a profession. In choosing this profession an individual assumes an obligation to conduct himself in accord with its ideals." No other profession has the opportunity of living and working so very near to the pulse of existence as does the medical profession. No economist would dare to question the statement that human efficiency is directly in proportion to the health of society. Recognizing the truth of this, economists have chosen to arrive at greater human efficiency by a short-cut which should harness the medical profession as a servant of society. We, of course, professionally are this already, and we are glad to say that we are; but a true servant must safeguard the welfare of his master, and it is this we purpose to do. We shall insist that in this harnessing process the medical profession shall not be so hampered that its very professional ideals shall suffer. We have taken exception to the Workmen's Compensation Act, and not from a selfish viewpoint. We will reiterate that its unfairness is so manifest to all parties concerned that the good to the laborer is absent, the responsibility of the employer increased at times unreasonably, even though his liability in an individual case is lessened, and the physician underpaid is hampered in the carrying out of his work by reason of a law poorly adapted to meet the economic situation. The amounts specified are inadequate to meet the expenses of the hospitals so that compensation cases are partially charity in nearly every instance. Such a state of affairs is inconsistent with democratic or professional ideals, and as a profession we must object as a matter of professional and national pride.

To subscribe to these conditions would be an insult to those of us who have plead for the betterment of human comforts. We must not be taken as always defending the hospitals, for in many instances we must regretfully note there has been a serious absence of care of the poor. Of course, appropriations have been insufficient to meet the entire expense of bed care, and all of us recognize this; but the physician has been obliged in every case to institute makeshift treatment. We therefore urge sufficient appropriation to meet these needs. We urge the expenditure of our state moneys to insure a strict hygiene everywhere and to insist on the proper care for the sick. We make this plea as a true profession with the welfare of the public as our first and fondest hope.

Public opinion must be molded so that the legislation passed must look first to the improvement of working conditions and living conditions. We can only influence public opinion by thorough and intensive medical propaganda.

This must come through organization of effort. We do not fear that we have not the hearty support of everyone in this, but we insist that we, in addition, have evidence of their support in our scientific organization. Each one of us should consider it his first obligation to attend the meeting of our organization, and the time to begin is NOW.

The Doctor's Place

At the Congress of Industrial Physicians held in Pittsburgh recently, the sentiment prevailing was that State Medicine was highly impracticable under present economic conditions. Some one delivered himself of an oration in which he stated openly that the public health situation was no affair of the physicians. Some of our readers may be surprised that such a thought could come from the mind of an educated sociologist unless it be understood that the time-worn idea that medicine is an art and that physicians are machines is still held by the statistical acrobats. It is needless to recount the incidents in the history of our own United States where great projects were carried out only after trained medical men had outlined the sanitary supervision. If the world today were in a state of perfect sanitation, and medical science had won the race to the millennium, it might be possible for the untrained to supervise public health. Since the aspect of medicine is today changing more rapidly than ever, and even the greatest scientists are often at loggerheads over methods of prevention and treatment, the question of public health must still remain within the control of the trained physician. The looseness of medical organizations in the past has led the sociologist to believe that he might control things far more expeditiously. We grant him this for we believe he is sincere. There is a lurking suspicion, however, that there is a certain element in our economic system today who have no scruples about exploiting the physician and emulate the cuckoo in occupying his place in directing public welfare.

We are in receipt of a circular letter from the New York State Medical Society urging the defeat of the Health Insurance bill in New York. A short time ago the public press chronicled the fact that the Medical Society of the State of New York had urged the adoption of Health Insurance legislation. The bill as it reached the senate, amended, came into our possession some weeks ago and we are not surprised that a body of men so progressive as the Medical Society of the State of New York should urge the defeat of such a bill. Subscribing to the principles of State Medicine does not mean that when the bill is introduced it will bear any semblance to the amended product. The editor has no disposition to be a chronic skeptic, but he has frequently warned of this possibility. State Medicine is coming, we are told; but it must never come when the law adopted shall not have had the benefit of study and suggestions of an organized medical profession. The New York act in its present form is absolutely antagonistic to the growth of the profession, the altruism of which is menaced by laws imposing a wage scale and professional restrictions.

It is absolutely necessary to support medical organization and any one who today is guilty of wilful neglect of this support is endangering the very principles of medicine.

THE REPORTER, LACKAWANNA

Doctors, Why Not Visit the Library?

Do you know that the library which is in our rooms contains many rare as well as unique books. That there are also many modern books, so many in fact, if you were the individual purchaser, you would pay many, many thousands of dollars for them, and if you don't use them it is your fault; they are there for the use of the doctors, and they alone.

Dr. Dean recently gave us his entire valuable library and will soon be catalogued and made available for your use. If you were to attempt to write a scientific medical article and wish to consult the literature, we have about what you would want upon our shelves, but if you had to get this otherwise, it would cost you hundreds of dollars, and you would either have to hire it done by some one or go out of town to sponge on the good will of the owners of some other library.

BULLETIN, INDIANA

A Valuable Clinic

The members of the society who were not at the March meeting were of two classes: Those who wanted to be there and could not be, and those who could have been, but neglected the opportunity. We are sorry for both, for we certainly had an interesting clinic. Not the ordinary cases, of broken backs and legs, such as we are always unfortunate in having in the wards, but unusual cases, and all thoroughly worked out, and a member, whether interested in medicine, surgery, pediatrics, roentgen ray, or laboratory work would have found something of interest in these clinics, and these cases were "combed" out in a way that you will find equaled only in the large hospital of the city, and not excelled anywhere.

MEDICAL PROGRAM, WASHINGTON

John B. Donaldson, M.D.

At the last meeting of the society the following resolution was proposed by Dr. J. N. Sprowls and adopted:

Resolved, That we have the May meeting for a rally meeting for new members, all the present members to act as a special committee to secure new members.

Special program.

Presentation of Dr. John B. Donaldson's portrait by Dr. R. A. Connor.

Remarks by Dr. G. B. Wood, Dr. J. C. Kelso, Dr. W. H. Alexander and Dr. J. N. Sprowls. Voluntary remarks.

Invite the Ladies who are friendly to the medical profession and have light refreshments with ice cream.

Toasts.

Our State Society — Dr. Walter B. Donaldson, State Secretary.

The County Society — Dr. R. E. Brock of Waynesburg.

Our Volunteer Physicians — Dr. A. E. Thompson of Washington.

The president to appoint a committee of four, one of the four to be the secretary-treasurer, to carry out the above.

The central idea of this meeting is to honor the memory of the late Dr. John B. Donaldson. Dr. Donaldson did more perhaps than any one man to raise the Washington County Medical Society to the high plane on which it now stands.

Let me say in the interest of the drive for new members that there are in Washington County a large number of medical men who would make valuable members of the society if it were only possible to interest them in the workings of the society and demonstrate to them the advantages to be derived from membership therein. Allow me to appeal to the members of the society to get busy and try to get these men to join. Personal work is what will count. Won't you, each and every one of you, try and get at least one new member or a reinstatement for the May meeting and thus do your share toward honoring the memory of Dr. Donaldson? Try to make this a memorable meeting. Help to get out the membership. Don't forget to come yourself. If you don't happen to have an application blank you will find one in the back part of The Pennsylvania Medical Journal. Now wake up! Do your duty! And make your medical society one hundred per cent. efficient by becoming one hundred per cent. efficient yourself. Be a real doctor.

COMMUNICATIONS

THE PHILADELPHIA COUNTY MEDICAL SOCIETY'S ALBUM OF HONOR

AN APPEAL TO OUR WARRIOR MEMBERS FOR THEIR PORTRAITS

"The printed word may err. The face of the man is Nature's record, stamped where all may read."—Lord Macaulay.

"The Chinese have a saying that once seeing the likeness of a man is better than a thousand times hearing about him."

"Illustration is a means of education and education is the means of making people happier as well as wiser."—Louis Edward Levy, Scientist and Inventor.

Dear Fellow Members: When war was declared against Germany and her Allies, a number of our members left their families, homes and practice to enter the service of their country in its hour of need. They were quick to risk their lives at the call of duty. Many crossed the ocean to heal the sick, assuage pain and restore to health those shell-shattered soldiers who were wounded on the battlefields of Belgium and France, and a number were assigned to the many camps at home to preserve the health and save the lives of these soldiers in service. Their self-sacrifice and persistent devotion to duty has won for them the exalted praise and unstinted gratitude of our people.

A movement to honor perpetually those of our members who have served their country in all the wars since 1812 is the purpose of your Committee on Archives. And within the scope of its purpose is the creation of an Album of Honor, on the leaves of which will be placed a cabinet size photograph or print of those of our members who entered our country's war service since the war of 1812. Dr. Samuel Jackson, one of our founders, and Dr. J. F. Lamb our second president, served in the war of 1812.

"Human memory is very short and human gratitude not too long," writes John Galsworthy in Reveille. Let not these true wise words be applied to us. For what these patriots have done for us, it should be obligatory on our part to bring this Album of Honor to a stage that it may soon reach consummation. In requesting this aid from our members, we know that the many activities of the day, arising out of the advances made by the many medical and surgical discoveries, keeps the physician close to the "tread-mill" on his every working day. Yet we must not forget that membership involves obligations as certainly as it confers privileges.

Our society is the only medical society in the United States to adopt this plan of honoring those patriotic, past and living members, who will always be a source of pride to our membership. These collections of the portraits of our founders, past officers and warrior members of all the wars since 1812 will, as the years roll on, be of priceless value to the historian, analyst and essayist. The great Macaulay in his history of England "lamented that he could not find the likenesses of many of those of whom he wrote, that the picture to one who saw it understandingly was supplemental to, and even more informing, than the written word That the lines of stress and toil, the furrows of mental concentration, the broad intellectual brow, and the clear bright eye, tell us, that it is no sluggard or weakling who is portrayed, but a clean-cut man of battle. For truly the warrior does not always wear a sword."

There were a few of our members who served in the Mexican War and a number in the Civil War whose portraits are wanted. When we consider that our society is over 70 years old, our success in collecting so large a number of portraits of our founders and past officers has been remarkable. So many of these photographs have come to us from sources unexpected, increasing our zeal and enthusiasm to go on with the work. We value the cooperation of our fellow members, and we request each one to become a Sherlock Holmes for one or two days a month to aid us in completing this Album of Honor.

Every year it is postponed it will become more difficult to find the portraits of our warrior members. Lest they be lost to us forever, let us make strenuous efforts to obtain them while the opportunity is present. Let us make this Album of Honor a thing hallowed by the heroic memories of those who have left us a glorious heritage.

"For the youth they gave and the blood they gave,
  For the strength that was our stay,
For every marked or nameless grave
  On the steel-torn Flanders' way—
We who are whole of body and soul
  We have a debt to pay."

For the Committee.

Albert M. Eaton, M.D., Chairman.

2017 N Thirteenth Street, Philadelphia.

COUNCIL OF NATIONAL DEFENSE

Washington, D. C., March 20, 1919.

From: Chairman, General Medical Board, Council of National Defense

To: County Committee Members

Subject: *Termination of War Activities*

On the signing of the armistice on Nov. 11, 1918, the strenuous war time activities of the committees of the Medical Section of the Council of National Defense automatically ceased. As the unfinished business in the hands of the committees at that time is now approaching completion, you are hereby notified of the termination of your war duties as county representative on April 1, 1919.

Not until the history of our part in the great war is written will the people realize the important rôle the medical profession of the United States played in making our country a deciding factor in winning the war. Do you realize that in the year before our entry into the conflict the commissioned officers in the medical departments of the Army and the Navy numbered less than five hundred in each service and that practically 40,000 civilian doctors had been added to these two corps by the time hostilities had ceased? When the story is told of the enrolment of these thousands of doctors, it must give the largest credit to our many state and county committees who labored so patriotically and continuously to carry out the recommendations of the organization under which they worked, the Council of National Defense, and thus aided the administrative departments of the Surgeons-General of the Army, the Navy, the Public Health Service and the Provost Marshal-General.

The work of these committees under the direction of the General Medical Board had to do with activities of which the following is a brief summary: Recruiting medical officers; standardization of medical and surgical supplies; cooperation in controling venereal diseases; mobilizing five thousand dental surgeons; establishing committees on hygiene, sanitation, general surgery, orthopedic surgery, ophthalmology, otology, rhinology, and laryngology, general medicine, nursing, women physicians and medical schools; organizing medical advisory boards; the study of industrial medicine; securing through legislation increased rank for reserve medical officers; and finally, individual classification of the members of the profession through the medium of the Volunteer Medical Service Corps.

I want you to know that those of us who have had the responsibility of organizing and enroling the medical profession and resources appreciate the value of your work and thank you for it from the bottom of our hearts. This includes the Secretary of War who presides over the Council of National Defense, the Secretary of the Navy, who is one of its members, and the President of the United States, who appointed the Council and on two occasions has said, in speaking of our state and county committees: "Will you not be kind enough to convey to them a message of sincere appreciation from me of their services as authorized governmental agencies? . . . The Health of the Army and Navy and the health of the country at large is due to the cooperation which the public authorities have had from the medical profession."

Finally, in sending this last official communication to you after our two years of stressing work together, I want to thank you personally for your ever prompt response to my calls for help and for the evidence you have always shown me of your loyalty, fidelity and friendship.

Yours very truly,
Franklin Martin,
Chairman, General Medical Board, Council of National Defense.

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Clinical Microscopy and Chemistry. By F. A. McJunkin, M.D., Professor of Pathology in the Marquette University School of Medicine; formerly an Assistant in the Pathological Laboratory of the Boston City Hospital. Octavo volume of 470 pages, with 131 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $3.50.

The Disabled Soldier. By Douglas C. McMurtrie, Director, Red Cross Institute for Crippled and Disabled Men; President, Federation of Associations for Cripples; Editor, *American Journal of Care for Cripples.* With an Introduction by Jeremiah Milbank, Vice Chairman, Committee of Direction, Red Cross Institute for Crippled and Disabled Men. New York: The Macmillan Company, 1919. Price, $2.00.

Autointoxication or Intestinal Toxemia. By J. H. Kellogg, M.D., LL.D., F.A.C.S., Medical Director of the Battle Creek Sanitarium. Battle Creek, Mich.: The Modern Medicine Publishing Company. Price, $2.50.

Ultra Violet Rays in Modern Dermatology. Including the Evolution of Artificial Light Rays and Therapeutic Technic. By Ralph Bernstein, M.D., Professor of Dermatology, Hahnemann Medical College; Clinical Chief, Skin Section, Hahnemann Hospital Dispensary, Philadelphia; Dermatologist to the West Philadelphia General Homeopathic Hospital and Dispensary, etc. Illustrated. 5-9 N. Queen St., Lancaster: Achey and Gorrecht.

BOOK REVIEWS

SURGICAL TREATMENT. A Practical Treatise on the Therapy of Surgical Diseases for the Use of Practitioners and Students of Surgery. By James Peter Warbasse, M.D., Formerly Attending Surgeon to the Methodist Episcopal Hospital, Brooklyn. Volume II; 829 pages, with 761 illustrations. Philadelphia and London: W. B. Saunders Company, 1918.

The second volume of this interesting encyclopedia of surgical treatment maintains the standard of the first, already reviewed. It discusses injuries and diseases of the head in a manner characteristic of the previous volume. Surgeons will be especially interested perhaps in the operative treatment of cranial injuries. The book will be valuable to the specialist because it also discusses diseases and injuries of the eye with their operative treatment, and injuries and diseases of the nose, mouth and ear. While these sections are devoted to the pure specialties of the head there is much in them that the general surgeon will find valuable in his investigations of patients. Spinal surgery, thoracic surgery and abdominal operations are given a large amount of space. As might be supposed, diseases of the mouth and of the eye and ear have driven the author to give a good deal of attention to the plastic restorations.

The writer of this review feels obliged to recur to the unusual care with which the author has treated the surgery of the many regions which have been enumerated. He is more and more convinced of the value of Warbasse's Surgical Treatment as a companion reference book of more than general interest and convenience. If the third volume continues the high standard of the first two volumes the entire work will prove to be a very satisfactory guide and reminder of available methods of treatment in the daily routine of surgical practice.

A possible criticism is that the author in endeavoring to show the latest methods in surgical technic sometimes fails to advise a choice. While the experienced surgeon may have no difficulty in selecting the proper procedure in a given case, suggestions regarding such choice would be invaluable to the younger operator. J. B. R.

THE MEDICAL CLINICS OF NORTH AMERICA. Philadelphia Number, November, 1918. Philadelphia and London: W. B. Saunders Company.

This volume consists in considerable part of articles by capable teachers and clinicians, including Stengel, Landis, Deaver, Rosenberger, Burr, Case, Davis, Ostheimer and Riesman, dealing from various angles with the subject of influenza, as observed, especially in civil practice during the recent epidemic. Perhaps we are to have no serious recrudescence of this disease in the near future, but the contributions have a timely interest and a practical value, apart from their historic significance. Other articles by McCrae, Schamberg and Strickler, Funk, Rehfuss, Griffith, Poots, and Jonas and Bowen deal with the clinical aspects of a number of other morbid conditions, while Ludlum discusses the subject of physiologic psychiatry. E.

SOCIETY

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting of Feb. 5, 1919, at 8 p. m., the President, Col. William J. Taylor, in the Chair.

Concerning Concussion and Contusion Injuries of the Eye in Warfare. Lieut.-Col. George E. deSchweinitz: This communication concerns itself only with some of the results of ocular concussion- and contusion-injuries in warfare, and makes mention of some of the pathogenetic problems which they present, of certain of the differences which are evident as compared with the results of such injuries in civilian life, and of one or two new clinical pictures. A large literature has accumulated on this subject and at least two important atlases have been produced, one by Lagrange and one by v. Szily. Col. W. T. Lister of the English Royal Medical Corps has made notable contributions.

In general terms the fundus lesions now under discussion are caused *directly* by a blow, or sudden forceful pressure, on the eyeball, behind, from the side, or tangentially; or *indirectly*, by the transmission of concussion or shock (contrecoup). In the first instance the lesions are classified as lesions by contact; in the second instance, as lesions by concussion. The contact lesions are caused by a missile which grazes the globe but does not rupture it, or by a fragment or portion of a fractured orbital wall or floor or roof, thrust harshly against the eyeball. The concussion lesions are caused by (a) concussion at a distance; (b) by transmission of concussion or shock through the bony facial structures, and (c) by slight blows on the anterior part of the eye, the concussion being transmitted through the transparent media to the posterior pole (Lagrange). The lesions may be summarized as (1) lesions by concussion; (2) lesions by impact, (3) combined lesions, that is, both by concussion and impact. Should the lesions of the inner membranes result from a concussion at a distance, their development has been attributed to the commotion of the air-column shaking the ocular wall in the same manner as it shakes the door of a room. Should the concussion waves reach the eye in a line of transmission through the bony facial structure, the effect has been likened to the lifting up and shaking of a ship by a ground swell and the entire adipose envelope is concussioned, resulting in ruptures of the inner ocular coats (Lagrange). Of external manifestations there may be none at all; therefore, routine ophthalmoscopic examination of the eyes of wounded soldiers should be made.

The statement that lowered eyeball tension is an important sign of perforating scleral wounds must not be taken unreservedly in view of the many observations in this war. Notable are the cases of injury of the optic nerve in the canal by a missile passing through the orbit posteriorly, which sometimes cuts across the nerve, or the nerve is injured by a radiating fracture of the orbit. Mostly the result is an irremediable atrophy of the nerve and blindness. Avulsion of the optic nerve, which is jerked from its socket, is not infrequent. Contusion and concussion injuries of the eye in this war which have followed oblique wounds of the facial bony structures have represented about 6 to 8 per cent. of the whole number.

There seems very little doubt that lesions of the inner eye by concussion from a distance, by concussion transmitted through the bony facial structures and following blows on the point of the eye by preference are located in the macula and paramacular area; that impact lesions are equatorial and always adjacent to the site of contact; that a contact lesion may spread toward the center; that posterior pole and equatorial contact lesions may approach and join each other; and that missiles traversing posterior to the bulbus and radiating fractures of the orbital vault are responsible for most of the direct optic nerve injuries. Whether it is safe to say that impact lesions are always, or almost always, retinochoroidal and concussion lesions choroidal, as Lagrange contends, it would seem is not definitely settled.

In the hope of stimulating extravasated blood and exudation, the usual alterative, diaphoretic and lymphagogue remedies may be tried, as may electricity, especially for those eyes with much vitreous change. Thyroid extract is also employed. I am frankly skeptical whether remedial agents have much influence, and more than skeptical as to the value of subconjunctival injections. In a certain number of apparently severely concussioned eyes after long periods of time there has occurred notable improvement in vision. Transitory astigmatism after direct concussion has often been noted.

Capt. George H. Cross: The markedly interesting picture presented in the ophthalmological service in Hospital No. 11, at Cape May was the enormity of the hemorrhages or involvement of the fundus which masked temporarily the true condition. A long time after the injury there would be the appearance of a rupture, but it was difficult to tell whether there was atrophy or rupture of the structures beneath. We had three cases of, so-called, "holes" in the macula, all due to injury of the skull and not directly to the eye. We have at the present time another type of lesion in the case of a soldier with a piece of shrapnel about a centimeter square in the median line of the sphenoid, which penetrated straight in without injuring either eye directly, but the visual fields are most unusually contracted. Externally the eyes are perfectly normal. In other cases the missile has struck the antrum, injuring the orbital rim and floor. While the eyeball shows no external evidence of injury rare fundus conditions are found internally. In some cases the orbital rim and parts of the bony wall have been torn away but without injury to the eyeball itself, except displacing it from its normal position. Examination shows that there may be only light perception, with this peculiar condition of the fundus; in others a surprisingly large percentage of vision is retained. In one soldier the foreign body, while not injuring the globe directly, struck the rim of the orbit, traveling along the nasal side, finally lodging in the orbital fat. The patient stated that when struck he became temporarily blind in both eyes; in three or four days he began to recover vision in the right eye, and when he arrived at Cape May the picture was that of a fine granular pigment in a triangular area below the disk, with no other evidence of injury. There was a perceptible diminution of vision in an area corresponding to the pigmented area noted in the fundus, but no scotoma was found, and no other pathological condition.

Reeducation of the Blind Soldiers. Lieut.-Col. James Bordley, Director, Red Cross Institute for the Blind, Baltimore, Md.: In an investigation of the wage earning pursuits of the civilian blind it was shown that the vast majority of the 85,000 blind in this country are dependent, in part or in whole, on their friends, or the state; that in one hundred cities 43 per cent. of the professional beggars are blind people; that the average wage of conscientious, willing, working blind men is about $4 per week, and that of the same type of blind women is about half as much. Blind people have a very definite economic value when properly trained. More money is wasted each year in foolish charity than would be required to train and place our whole blind population. Few people know that there is not a single school for the vocational training of the adult blind in the United States; that there never has been devised a scientific scheme for their education and training, and that not a single normal school trains teachers for the blind.

The medical profession is not altogether blameless for the mental deterioration of many blind people; through mistaken sympathy the blind are kept in ignorance of their real condition. The attitude of the family is often a most serious drawback to their occupational development. The attitude of the public is responsible for much of the trouble of blind people and it was primarily to overcome this attitude that St. Dunstan's in England, and Evergreen in this country were opened. They are not schools in the narrow sense, but rather, universities where the blind are taught hope and courage, trades and professions, ambition and success. The men there are not "poor, dear blind boys," but strong, resolute, normal men expecting to win. The courses of instruction at Evergreen are divided into recreational, essential handwork, and vocational. The blind man has more difficulty learning to play than to work, and for this purpose music, dancing, bowling, swimming, gymnasium exercises are available as indoor activities, and field events as outdoor sports. Included in the essential handwork is typewriting. Another essential study is the raised dot type of the blind—Braille. The usual schemes for developing the sense of touch are taught. As occupations of profit there are taught bookbinding, telephone operating, massage and other industrial and commercial subjects. Included in the commercial course is the application of an experimental store, the advance agent of a chain of stores to be operated by and in the interest of our blinded military men. The experimental store in size, color, shape and fixtures is the model that has been adopted for all the stores, and from this experimental store at Evergreen the men will be transferred to our experimental stores in the business section of Baltimore. These stores are to be called "The Victory Stores," meaning the defeat of gloom, despair and affliction by the blind man himself. Our plan for teaching industrial work for the blind was evolved by our having an industrial engineer make a survey of industry and by a process of elimination it was readily discovered what jobs the blind could best fill.

COUNTY SOCIETY REPORTS

BERKS—FEBRUARY

At the February meeting of the Berks County Society, Dr. S. J. Sondheim addressed the Society on "The Treatment of Influenza." A large variety of drugs has been used by different physicians. Quinin seems to have been discarded, while whisky was not advised. The polyvalent serum was considered better than the univalent. For the cough, heroin was given; for the toxemia, hypodermoclysis, saline enema, pituitrin, intestinal antiseptics. Dr. W. H. Ammarell gave potassium citrate, ten grains every hour; soda bicarbonate, saturate solution one ounce every hour. Dr. H. U. Miller gave milk diet with one third lime water. Camphor cleared up the cyanosis. Dr. T. H. A. Stites of Hamburg said the disease differed in virulence in different localities. It was more virulent in Berks County than in Lancaster County, and more virulent in mining districts than in Berks County. He attributed this to the overcrowded living conditions in mining districts and to the free use of alcohol. In Hamburg Sanatorium 130 tubercular patients contracted influenza, of which 30 per cent. died, while in the others the disease was aggravated. By heroic treatment with hot baths, Dover's powder and aspirin to produce free diaphoresis, pneumonia was prevented in nearly all cases. Influenza will develop a hitherto latent tuberculosis or light it up. Recovery is often accompanied by a low typhoid state, prostrations and mental dullness, poor digestion and sluggish bowels. Lieutenant Lytle, who has just returned from the service, said that in the Long Island Hospital, where immunizing doses of serum were injected, they did not contract the disease, while in Camp Mills 3 per cent. solution glucose intravenous injections were given with advantage. One case of pneumonia was benefited by bleeding. He saw two cases result in tuberculosis and one in tubercular peritonitis.

Clara Shetter-Keiser, Reporter.

BERKS—MARCH

At the meeting of the Berks County Society, March 11, Dr. A. C. Morgan of Philadelphia addressed the society on "Tuberculosis." In 1914 in France 89,000 soldiers were sent home as tubercular; of these, two thirds were reclassified and only one third kept back as being potentially tubercular. England was more careful in examining before sending, and so was America. Of 6,308 men in the National Guard examined by Dr. Morgan in July, August and September, 1917, only 32 were returned as being tubercular and cardiovascular. He considered all diseased men in the army as parasites, as occupying places needed by the well. He said of the men examined by the board to which he was attached only 1 or 2 per cent. were sent home for tuberculosis, while in California 17 per cent. of National Guard men were sent home. In examining men, little things should be noted; alae nasi, ear tips, dilated pupils may mean vasomotor excitation or old signs of phthisis. In auscultation develop breath over open mouth to get rid of nasal obstruction. Breathing out squeezes out any exudate in the bronchioles. A moist crepitant râle is positive sign of tuberculosis; it is present before bacteria are found in the sputum. Location of the hilus is most important. The right is more commonly affected, usually begins as a unilateral local nidus, which later becomes disseminated, found in the second interspace. In emphysema we have a distention and harshness of bronchial breathing. In examination, have patient breathe out, not in. Moist râles are present before excavation. The caseous matter causes bronchitis before it makes a cavity. If a man has consolidation of the lung it puts more work on the other ventricle. Influenza has resulted in emphysema and endocarditis. Tuberculosis selects the apices, while pneumonia selects the bases. Treatment: Feed patients with nitrogenous food to replace loss of nitrogen through sweating; use legumes, as peas and beans.

Clara Shetter-Keiser, Reporter.

DELAWARE—FEBRUARY

The Delaware County Society met at Chester Hospital, February 20, with the usual faithful few in attendance, and was called to order by President Stiteler. A motion was introduced and passed, authorizing the secretary to send postal cards to members requesting a vote on the advisability of the society meeting evenings instead of afternoons, as has been the custom.

A paper on "The Prognosis and Treatment of Penumonias" was read by Dr. Adam J. Simpson, and an exhibition of roentgen-ray plates was made by Dr W. E. Egbert. The paper emphasized the importance of prognosis in all disease, especially in pneumonia; also how essential it is for one to be familia with the pathology of the condition as well as being able to recognize the clinical facts when they are more or less evident. For one to make a prognosis of a case, particular attention must be paid to the cause, the pathology, the physical findings and in a great measure to the treatment. The importance of always considering empyema was dwelt on and demonstrated by roentgenograms of empyemas and unresolved pneumonia. Dr. Egbert showed fourteen plates of cases, where he had made a positive report of empyema, which were afterward drained by a rib resection with uniformly good results.

An unusually brisk and interesting discussion followed, which added materially to a very enjoyable afternoon.

Adam J. Simpson, Reporter.

LEBANON—MARCH

The Lebanon County Society met March 11 in the Y. M. C. A. Building, with thirteen members present. Dr. Seth A. Light, the state appointee for conducting at Lebanon a dispensary for the treatment of venereal diseases, explained to the society the scope and work to be done at the dispensary. On Wednesday and Saturday clinics are to be held along lines strictly ethical; that is, treatment is to be extended to only such patients as come there of their own accord or are sent there by physicians, in no case intruding on the private practice of the physicians. Treatments are to be given only to those who are without means to pay for the same. The statement led to a discussion of venereal conditions, their extensive existence and lines of treatment. It was predicted that in the near future all persons applying for marriage license will have to submit to the question as to the existence of taints or disease along venereal lines. If such conditions exist the same shall be recorded, and the records be open for inspection to those applying for marriage license, in order to protect either of the contracting parties against want of foreknowledge as to the existence of venereal disease. so that responsibility will lie where it belongs and no complaint of want of foreknowledge may, therefore, obtain as to the danger involved in contracting marriage relationship.

S. P. Heilman, Reporter.

PHILADELPHIA—FEBRUARY

The Philadelphia County Society met February 12 at 8:30 p. m., President Stahl in the Chair.

"The Work of the Health Insurance Committee of Pennsylvania" was presented by William Draper Lewis, Esq., dean of the Law School, University of Pennsylvania. I shall attempt to state exactly what the Health Insurance Committee appointed two years ago has been trying to do. By making a survey of typical but different districts of this city, of country districts, and of other cities of the state, the committee has gathered certain facts regarding the quantity, and the economic results of sickness among wage earners. Having this knowledge we want to ascertain the various plans in operation abroad or which have been suggested here and find a solution of the problem encountered. The two main results of our investigations are that the actual amount of sickness in the community among wage earners and the days lost, the estimates running from 20 to over 50 per cent., are very much increased by the fact that the wage earner cannot afford to lay off when he is sick. The history of one case after another is that a man who is sick keeps on his feet and the sickness which might have been only a short one becomes a long and serious one. From the survey made in Kensington we found that while many workmen were not sick, the average number of days lost by the men was thirty-six days in the year. The charitable organizations helping our commission show sickness to be the greatest single cause of poverty and destitution, the estimate being between 40 and 60 per cent. This condition obtains in the family of the man who is steadily employed but who cannot afford to be sick.

The problem with which we are struggling is that which is typical of the case of "John Callahan," as we have found it. This John Callahan was employed by a large corporation, had married young and had several children. He was a sober, industrious man and received good wages from the standpoint of similar work and sufficient to provide his family with nourishing food and to enable him to save a little money. John Callahan, however, could not afford to get sick, and when he did get sick all his savings disappeared. The doctor who had been attending him, who had been paid very little or not at all, continued to come; the grocer allowed him to run up bills, and the doctor and the grocer carried the load. Then Mrs. Callahan got sick and, after this, the children from being underfed; the family ran down hill until Mrs. Callahan took the young child to the hospital. Then it was that through the Social Service the family was restored to a self-supporting position. That "John Callahan" is alive today and at work, but he never will do a full day's work again. The thing I would emphasize is that the loss of wages the result of sickness fell on the one man in the community who was least able to bear it.

The question asked by the state of the Health Commission is, Is there any remedy for the problem of "John Callahan," any machinery of the state by which the incidence will not fall on him, by which when he is sick he can get adequate medical care decently paid for? In Europe they believe they have solved the question. I do not say that the system of England is right. I do not say that any particular insurance is right. What I do say is that the economic loss from sickness must be removed from "John Callahan," if you want to do away with the destitution which you as doctors, more than the average members of the community, are paying for. The problem is a big administrative one which affects your profession more than any other. I would like to see societies such as the Philadelphia County Medical Society, appoint representatives to work with us over our collected material in trying to find a working plan which is practicable. I do not think any great insurance plan which would cover millions of people will ever be a practical success unless through it the medical profession is rightfully compensated from the point of view of members of your own profession. I believe we must work out a plan by which the medical profession ceases to carry this burden which it is now largely doing. It is no more right that this burden should be carried by you than that it should be borne by John Callahan. It should be carried by the community in part, by John Callahan in part, and perhaps by the employer in part. Any important service in the community should be paid for adequately or the community suffers.

"Health Insurance as a State Policy" was presented by Dr. John B. McAlister, Harrisburg. It is not my intention to present any arguments for or against health insurance as a state policy, but rather to present the sickness problem as developed by the investigation of the commission. Sickness produces a problem between five and seven times as great as that produced by industrial accidents. In 1916, 3,025,375 working days were lost in Pennsylvania through accidents, while approximately 16,800,000 working days were lost on account of illness. Among the facts obtained through investigation, it is noted that more than 385,000 employees in the state are constantly suffering from illness, and that the average loss of working time to employees in the state is at least six days each year because of sickness. At the nominal rate of $2 per day the wage loss to employees because of illness is at least $33,000,000. The average cost of medical care for every employee's family is between $30 and $50 per year. During the influenza epidemic anthracite coal production dropped behind 500,000 tons in a few days. The state spends over $6,000,000 every year directly for the treatment of sickness. In addition, $4,000,000 is spent for the maintenance of institutions for the care of defectives, due partly to the neglect of sickness. Sickness seems to be the principal single factor forcing the wage earner's family to seek help. Sickness was the primary cause of dependency in 50 per cent. of 5,000 cases studied in California and 42 per cent. of the 1,141 cases in New Jersey. In our own state the same general conclusions are borne out.

The present facilities for medical care among wage earners are not satisfactory. The number of beds per one thousand population is three and one-tenth. Authorities tell us that five beds per one thousand population is necessary. Sixteen of the sixty-seven counties in Pennsylvania have no hospital beds and nine other counties have less than one per thousand persons. When the cost of ward beds is beyond the means of probably half the employees of the state, when in a single year nearly 2,000,000 days of free hospital treatment were given and almost 900,000 persons patronized charity dispensaries, some change is needed which will make medical care available as a right and not a charity. Of all deaths of persons of working age in 1916, 91 per cent. were from diseases whose connection with important Pennsylvania industries has been established. It is claimed that one-half of existing sickness could be eliminated were preventive measures established. A large number of communities in the state have no active health work, and from 70 to 75 per cent. of the schoolchildren in the state are physically defective. Responsibility for illness rests on the community, industry.

and the individual, and these three groups are meeting the loss from sickness in wholly unequal shares; the burden on the individual is often disastrous and out of proportion to his individual responsibility. Whether the corrective distribution should be accomplished by an extension of existing voluntary insurance agencies, or by a system based on a modification of the English or other European plan we are not prepared to say. We as a profession must face a great change in the social structure of this country. I believe there is no danger of health insurance legislation at this time, but the situation is similar to that of a few years ago when the Workmen's Compensation was under discussion and which suddenly became a law. Had the medical profession taken its part in the development of this legislation many of its present defects, so far as it applied to the profession, might have been prevented. I wish that every county medical society would appoint a special committee composed of its best constructive brains to study this subject alone, and, if a commission is continued by the present legislature, that these committees will be prepared to meet with the commission and help it to arrive at a conclusion, so that we may avoid the bitter experience of the British medical profession.

A paper on "Health Insurance" was read by Isadore Stern, Esq., of the Philadelphia Bar (see page 391, March issue of The Journal).

Dr. Frederick L. VanSickle, president of the Medical Society of the State of Pennsylvania: I take it from what has been said tonight that the subject of health insurance as it relates to the physician, the public and in its problems is just as far away from what we know of American practice as anything we can imagine. We are in the position of knowing nothing of the finished structure of health insurance. We must attack a problem with a certain amount of knowledge before we can discuss it intelligently. I feel that the Commission on Health Insurance has been very wise in not presenting to the legislature, immature, improperly constructed plans to be accepted unwillingly by the people. We have on our statute books the Workmen's Compensation Law which was framed without the consultation with the medical profession which physicians would have been glad to give. If the Health insurance Commission continues in power and will open the door, I doubt not that the great profession of medicine in Pennsylvania will welcome an opportunity to collect facts and material and coordinate their work to assist this commission. I have had opportunity of observing the effect of industrial conditions in many communities. I have encountered some "John Callahans" in my own experience. I remember very distinctly a John Callahan whose sickness problem was brought about by an evil which is now about to be eliminated. We do not as a medical profession believe that poverty is caused primarily by illness. As president of the Medical Society of the State of Pennsylvania I welcome this discussion tonight, feeling that it has awakened an interest among us as nothing else could possibly do and will do much toward arousing the medical profession to take the place it should have in the affairs of the state in such problems as the present. We should have the same right as the legal profession in determining the price which shall be set on our services. I think that this society and every other county society should have its committee interested in a health insurance measure which will protect the interests of the doctor. We are trying at Harrisburg to do something for the medical profession relative to the various medico-legal problems arising from year to year. Many times the medical profession has made mistakes because it failed to cooperate in these efforts. If health insurance must come it is highly important that we get together in the framing of a measure which shall be equitable to the people and to the medical profession.

Dr. L. Webster Fox: I would move a vote of thanks to the gentlemen who have spoken to us, and as chairman of the Committee on Legislation I appreciate very much that we have had this information given to us. I agree with Dr. VanSickle that it is essential that we shall be alert and that we shall cooperate in an earnest effort to obtain a measure equitable to all concerned. So long as we are represented by Dr. McAlister on the commission I feel that the interests of the medical profession will be protected. We are to be congratulated in having with us Dr. VanSickle, whom we meet in Harrisburg and who, we know, is working for the protection of the medical profession.

WARREN—MARCH

The Warren County Society held its March meeting with nineteen members present. Dr. A. B. MacDonald read a paper on "Sinusitis," describing the various symptoms and complications, and outlining the treatment. Capt. Alan Finlayson, M. R. C., and Dr. L. E. Chapman related the symptoms of two cases, following which President Frantz addressed the members, urging them as a society to take a more active part in educating the public in health matters. He suggested the child welfare work as worthy of attention and the importance of backing the health authorities in getting a good milk supply for the town. Dr. Haines then treated the members to a fine dinner at the Elks Club.

M. V. Ball, Reporter.

NECROLOGY

In Memoriam—Daniel Worrall Jefferis, M.D.

The following resolutions were adopted by the Delaware County Medical Society:

On the morning of Sept. 1, 1918, full of years and honor, Dr. Daniel Worrall Jefferis passed into eternity, leaving the world the better that he had lived.

Dr. Jefferis was born on Christmas Day, 1841, in Chester County, and with the exception of five years since his graduation he has spent his life in the practice of medicine in this vicinity, forty-five years of that being in the city of Chester. He was a gentleman all through; never, even amidst the familiarity of long intercourse, did he utter a rude or unfeeling word; never, even in the privacy of a long friendship, did there drop from his lips a syllable, a single tone, that was unseemly. He was neither obsequious toward the rich nor condescending toward the poor. The laudations that were lavished on him by many all through life left him unspoiled. The courtesy and cordiality of his manners will long be remembered by those who came under their fascination. Unselfish and social, many a one has felt the warmth of his hospitality; thoughtful and considerate, gentle, sympathizing and generous, many a one will bear to the last the grateful recollection of his kindness.

In his death this community has lost a useful citizen; all who knew him, a faithful friend; and the profession of Delaware County an honored physician. Dr. Jefferis has reared for himself a monument more enduring than one of marble or brass, and he needs neither scroll nor tablet to bear record of the deeds of his life. He cannot be forgotten where the influence of his life will tell for good on coming generations, who will ever hold memory of his fair name and kind deeds. Be it

Resolved, That the Delaware County Medical Society has suffered an irreparable loss in the death of Dr. Jefferis; and be it further

Resolved, That this resolution be incorporated in the minutes of the Delaware County Medical Society and that a copy be sent to the family of Dr. Jefferis

J. L. Forwood.
J. Harvey Fronfield.
Adam J. Simpson.

In Memoriam—Frances N. Baker, M.D.

The following resolution was adopted by the Delaware County Medical Society:

With the passing away of Dr. Frances N. Baker, Sept. 30, 1918, the Delaware County Medical Society has lost one of its oldest and most faithful members. She was the first woman physician to be admitted to the society. For one year she also served as president of the society.

Dr. Baker was born in Philadelphia; she received her education in Unionville, Chester County. Dr. Jefferis was a schoolmate of hers, and they kept up their friendship through life. She married Mr. James W. Baker, who was superintendent of public schools in Delaware County for eleven years. She studied medicine after her marriage, graduating from the Woman's Medical College of Pennsylvania in 1877, and practiced her profession in Media for forty-one years. She was the pioneer woman physician in Media, and in those early days of women physicians it required courage and endurance to withstand the prejudices of custom. In these days of cordial recognition of women in the profession we cannot fully appreciate the hard pioneer work of Dr. Baker. Standing alone, subjected to prejudiced criticism, it was necessary for her to keep her work above the average. Her keen sense of humor lightened many dark places, and her ready wit parried concealed thrust. She was an indefatigable worker and an enthusiast in her chosen profession, particularly in obstetrics, in which she excelled. The keynote of her success was her devotion to her patients.

Dr. Baker was a member of the Woman's Medical College Alumnae Association, the Delaware County Medical Society, the Medical Society of the State of Pennsylvania and the American Medical Association.

Outside of her profession her interest was in literature, travel and the education of youth. In the latter she was ever a stimulating influence and contributed to it most generously in money.

Dr. Baker practically realized her desire to "die in harness." During the last two years she had been failing, but did not relinquish her work until about a month before her death. The long procession of patients coming to take their last farewell on the night before the funeral was a touching tribute to her life work.

Resolved, That it is the sense of this society that these resolutions be spread on the minutes and a copy sent to the family.

Alice R. Easby, Chairman.
E. E. Brown.
J. Harvey Fronfield.

In Memoriam—Charles G. Hildebrand, M.D.

The following resolutions were adopted by the York County Medical Society:

Dr. Charles G. Hildebrand was born in Loganville, York County, Dec. 31, 1859. During his earlier years he attended the public schools of his native town, and for several sessions he was enrolled as a student in the York Collegiate Institute. In the fall of 1879 he matriculated as a medical student in the College of Physicians and Surgeons at Baltimore, and was graduated from that institution in March, 1881. After his graduation he located at Winterstown where he practiced medicine until December, 1888, when he removed to Loganville, where he continued to practice until failing health caused him to relinquish the professional work to which he was devoted for nearly thirty-eight years.

With profound regret and a keen appreciation of its loss, the York County Medical Society records the death of Dr. Charles G. Hildebrand, one of its faithful members, and hereby expresses its appreciation for the honorable and professional manner in which he always performed the duties of his high calling; therefore, be it

Resolved, That in his death the society has sustained a distinct loss and the profession a faithful and conscientious practitioner; and be it further

Resolved, That these resolutions be entered on the minutes of our society; that a copy be sent to the bereaved family, and that one be sent for publication in the Pennsylvania Medical Journal.

Isaac C. Gable.
A. A. Long.
L. H. Fackler.

In Memoriam—Louise Harding, M.D.

The following tribute of respect was adopted by the York County Medical Society:

Whereas, It has pleased our Heavenly Father to remove from our midst our friend and co-laborer, Dr. Louise Harding; and

Whereas, It is fitting and right that we should give expression to our respect and love for the departed one; therefore, be it

Resolved, That, bowing to the Divine Will, we express a keen sorrow for the loss of a faithful worker, one who was untiring in her services to relieve the sick and afflicted, and always ready to respond to their calls. Her character and example may well be emulated. Further be it

Resolved, That a copy of these resolutions be sent to the bereaved family, and be spread on the minutes of the York County Medical Society, and published in the Pennsylvania Medical Journal.

F. V. McConkey.
Laura J. Dice.
John T. Harbold.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1919, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Tannin Albuminate Exsiccated-Merck.—A compound of tannic acid and albumin thoroughly exsiccated and containing about 50 per cent. tannic acid in combination. It was first introduced as tannalbin. The use of tannin albuminate is based on the assumption that the tannin would pass the stomach largely unchanged, and thus the astringent action be exercised in the intestine where the compound would be decomposed by the intestinal fluid. It is used in diarrhea, particularly that of children and in phthisis. Merck and Co., New York.

Tannin Albuminate Exsiccated-Merck Tablets, 5 Grains.—Each tablet contains 5 grains tannin albuminate exsiccated, Merck. Merck and Company, New York (*Jour. A. M. A.*, March 1, 1919, p. 653).

Neoarsaminol.—A brand of neoarsphenamine complying with the N. N. R. standards (see New and Nonofficial Remedies, 1919, p. 41). Neoarsaminol is supplied in tubes containing respectively, 0.15 gm., 0.3 gm., 0.45 gm., 0.6 gm., 0.75 gm. and 0.9 gm. Neoarsaminol is manufactured under the "neosalvarsan patent" by license of the U. S. Federal Trade Commission by the Takamine Laboratory, Inc., New York.

Swan's Mixed Acne Bacterin (No. 41).—Marketed in 6 c.c. vials, each cubic centimeter containing 25 million killed acne bacilli and 500 million killed *Staphylococcus pyogenes-albus.* For a discussion of "Acne" vaccine, see New and Nonofficial Remedies, 1919, p. 296. Swan-Myers Company, Indianapolis, Ind.

Swan's Pertussis Bacterin (No. 38) (Prophylactic).—Marketed in packages of three 1 c.c. vials, containing, respectively, 50, 100 and 200 million killed pertussis bacilli. For a discussion on Pertussis Bacillus Vaccine, see New and Nonofficial Remedies, 1919, p. 287.

Swan's Mixed Furunculosis Bacterin (No. 39).—Marketed in 6 c.c. vials, each cubic centimeter containing 500 million killed Staphylococcus pyogenes-aureus and 500 million killed Staphylococcus pyogenes-albus. For a discussion of Staphylococcus Vaccines, see New and Nonofficial Remedies, 1919, p. 289.

Swan's Typhoid-Paratyphoid Bacterin (No. 42) (Prophylactic).—Marketed in packages of three 1 c.c. vials, one vial containing 500 million killed typhoid bacilli and 250 million each of paratyphoid bacilli A and B, while the other two vials each contain one billion killed typhoid bacilli and 500 million each of paratyphoid bacilli A and B. For a discussion on Typhoid Vaccine, see New and Nonofficial Remedies, 1919, p. 292 (*Jour. A. M. A.*, March 22, 1919, p. 863).

PROPAGANDA FOR REFORM

Malt Preparations in Infant Feeding.—Malt preparations have enjoyed popularity for some time in the feeding of infants. A familiar mixture is the so-called malt soup, the use of which was modified by Keller to include potassium carbonate. The assimilability of maltose has been highly lauded, but the advantage over other carbohydrates has not been definitely proved. Maltose has been vaguely stated to be indicated in the constipation of infants and the retention of calcium facilitated by the use of Keller's formula. However, in experiments on animals it was not found that administration of a base like sodium carbonate produced any effect on the balance of calcium. It has also been reported that in a normal infant the addition of alkali to milk produced an unfavorable effect on calcium retention. Without addition of alkali, malt extract was found to act beneficially on calcium storage, but this is probably not due to the maltose. If malt soup has a favorable effect on calcium metabolism, it is not due to the alkali originally present or added to it. There is no reason at present to attribute the seemingly substantiated benefit from malt preparations on calcium storage to the maltose (*Jour. A. M. A.*, March 1, 1919, p. 656).

Pharmaceutical Manufacturers and "Private Formula" Products.—Sharp and Dohme explain that it is their inflexible rule that all "private formula" orders intended for public distribution are refused until the copy for the "literature" has been studied by their experts. They explain that an order for three preparations which were later the subject of prosecution for misbranding under the federal Food and Drugs Act were filled and shipped in the belief that the copy had been passed on by their Spanish expert, when in reality this had not been done. The house of Sharp and Dohme feels that it has been done an injustice in the publication of the "misbranded nostrum" notices which gave no hint that the preparations were private formula products, and were not sold under the name of Sharp and Dohme. The firm believes that an injustice was done in that the references to these misbranded nostrums will lead readers to believe that they were sold under the label of Sharp and Dohme. There is unfortunately a commercial distinction between products which are made by a firm and products which are sold by it. Whether or not there is any moral difference between profiting by the manufacture of a "patent medicine" that is to be retailed by some one else, and selling the same medicine under one's own name, is a question (*Jour. A. M. A.*, March 1, 1919, p. 669).

Misbranded Nostrums.—The following nostrums were declared misbranded under the federal Food and Drugs Act because of the false, fradulent or misleading claims made for them: Alkavis; Sulferro-Sol; Gonorrhea and Gleet 3 Day Cure; Old Indian Fever Tonic; Pain-I-Cure; Walker's Dead Shot Colic Cure (*Jour. A. M. A.*, March 1, 1919, p. 670).

Nature's Remedy Tablets.—A. H. Clark, of the A. M. A. Chemical Laboratory, reports that "Nature's Remedy" is claimed to contain ten ingredients; that the manufacturers declare seven of these—burdock, juniper, sarsaparilla, mandrake, rhubarb, dandelion and prickly ash; and that the manufacturers state they are "more proud" of the other three, but refrain from naming them for fear of imitators. Clark's analysis, supplemented by a microscopic examination by E. N. Gathercoal at the University of Illinois School of Pharmacy, indicated that the unnamed drugs are aloes (or a preparation of aloes), cascara bark and belladonna root. The microscopist stated that rhubarb, as well as all the other named drugs, if present at all are there in such small quantities that no evidence of their presence was seen. As a result of the examination and a consideration of their powerful cathartic action, it is believed that Nature's Remedy is, essentially, aloes or aloin, cascara, and belladonna with, probably, resin of podophyllin (instead of mandrake)—a common cathartic mixture (*Jour. A. M. A.*, March 15, 1919, p. 815).

THE PENNSYLVANIA MEDICAL JOURNAL
Official Organ of the Medical Society of the State of Pennsylvania
Volume XXII
Number 8
Chicago, Ill., and Athens, Pa., May, 1919
Subscription: $2.00 Per Year

SEVENTH CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS

HELD UNDER THE DIRECTION OF THE DEPARTMENT OF LABOR AND INDUSTRY OF THE COMMONWEALTH OF PENNSYLVANIA

BELLEVUE-STRATFORD HOTEL, PHILADELPHIA, DECEMBER 6, 1918

MORNING SESSION

The meeting was called to order by the chairman, Dr. Francis D. Patterson, Chief. Division of Industrial Hygiene and Engineering, Department of Labor and Industry, Commonwealth of Pennsylvania, at 9:45 a. m.

Dr. Patterson: The meeting will come to order. It is requested that all who have not registered be careful to do so at the registration desk before leaving, so that the proceedings of this conference, which will be promptly published, may be forwarded to you without delay.

Our Seventh Conference of Industrial Physicians meets to take up a subject of vital importance "The Problem of the Physical Reconstruction and Industrial Rehabilitation of the War and Industrial Cripple."

The greatest of great martyrs, Abraham Lincoln, when he made his second inaugural address, an address which will endure as long as the English tongue endures, said, "With malice towards none, with charity for all, with firmness in the right as God gives us to see the right, let us strive on to finish the work we are in, to bind up the nation's wounds, to care for him who shall have borne the battle and for his widow and his orphan."

A glorious victory has come to our arms, in material measure due to the efforts of those workers in Pennsylvania who supplied approximately 60 per cent. of the vital munitions of war, but with the coming of peace the high gods, who sit, as mythology tells us, on Mount Olympus, will look down on a world that is sadly and strangely changed.

There will be some hurrying along who are lithe, full limbed and in all the vigor of health and yet there will be others who walk along on crutches, some who are without their arms, and still others who will never again see the beautiful blue of the heavenly vault, due to blindness, and still others who walk with halting step, as the result of impaired lung tissue from disease.

The state of Pennsylvania owes much to the generosity of one of its ablest and best women, who, together with her co-workers, enables us to be one of the first states in the Union to take up the problem of the handicapped man in industry, and I would be negligent in my duty did I not, on behalf of my Commonwealth, express the gratitude that the State of Pennsylvania owes to Mrs. J. Willis Martin and her co-workers of the Emergency Aid of Pennsylvania, who months and months ago, long before our entrance into the war, established a branch of the Employment Service for the purpose of the placing in their proper industrial vocation, such handicaps as they were enabled to find.

The figures as to the casualties of war in Europe are as yet not all told, but it is safe to assume that there are approximately thirteen millions of cripples in Europe as the result of the catastrophe of war.

Your Commonwealth of Pennsylvania and your Department of Labor and Industry five months before the passage of the Smith-Sears Vocational Rehabilitation Act made an inquiry among the manufacturers by means of a questionnaire, as to what places, if any, there were for the reemployment of the crippled soldier, sailor, or marine, and as the result of this questionnaire, which was sent out broadcast through our industries, it is with pride that I say that the manufacturers of Pennsylvania offered 49,417 employment opportunities for cripples, of which 47,321 are in industry, 908 clerical and commercial, 16 agriculture and 1,172 miscellaneous employment opportunities.

These data have been gathered together in a bulletin, entitled "Pennsylvania's Part in the National Plan for Rehabilitation and Placing in Industry of Soldiers, Sailors or Marines in War Service," prepared by the editor of the department, Mr. S. S. Riddle, in a most admirable and able manner, with innumerable tables in which these employment opportunities are classified and cross-indexed in every way that it is possible to do so. Anyone who has not received a copy of this bulletin and would care to possess it, if he will simply place his card at the registration desk, marked "Send me Bulletin," will have a copy mailed to him from Harrisburg.

The war is over and a victorious peace has come to our arms, but unfortunately, the casualties of industry that have been going on year in and year out, long before the war was even thought of, still continue, and the sum total is one that is simply appalling in its magnitude.

From Jan. 1, 1916, to June 30, 1918, of approximately three millions of workers engaged in various industries, we find that we had reported at Harrisburg 577,053 industrial accidents, and of that total 159,659 persons were disabled for a longer period than fourteen days and of this number of over 500,000 disabling accidents, 7,575 ended fatally. So, we have had more casualties in this period in the industries of Pennsylvania than combatant troops sent to England by the Commonwealth of Pennsylvania and the Dominion of Canada.

Let us stop a minute and see what are the figures of compensation paid: Over $11,000,000 paid for fatal cases, over $1,000,000 paid to the dependents, and over $5,000,000 paid for disability cases, a total of $17,000,000 expended in this time in compensation for these injuries and for these fatal cases.

If nothing else should come of this war, we surely have had the vision of a new era for the man, woman or child disabled in industry, because the work of the reconstruction and rehabilitation of the wounded war criple will not stop when the war is over, but, instead, the very valuable knowledge that has been gained by this experience will be applied to the care and treatment of the industrial cripple.

Let us one and all of us put our minds and our hearts on the problem of the reconstruction and rehabilitation into industry of the man, woman or child injured during the course of their industrial employment. Let us use all our energy to do away with that so-called scrap heap of those who have fallen by the industrial wayside, which is a milestone of disgrace in our industrial progress. Let us do away with the hiring of the cripple for the watchman's job, and instead, when the man meets with a disabling accident in industry, give him physical restoration and vocational training, and not return him to the job he had before he was hurt, but let us raise him up a step on the social ladder and give him a better position.

The mere payment of dollars and cents in compensation is not the full reparation for an industrial accident. Let us go, not a step, but a whole mile farther; pay the compensation and let our compensation board take such steps with the aid of legislation as will ensure that the man is given, at the expense of the state, proper vocational training to fit him for a better situation in life. Let us give the man who is hurt, not charity but a chance, and we must do it if we are to endure as an industrial state in the greatest nation in the world.

I regret to announce that Mr. Walter McNichols, the Acting Commissioner, Department of Labor and Industry, Commonwealth of Pennsylvania, who had planned to be with us this morning and deliver the address of welcome, has been detained in Harrisburg on official business. In his absence, it will be our pleasure to have a word of welcome from one, the oldest in point of years of service with our department but the youngest in heart, Mr. James A. Steese of Harrisburg. I take pleasure in presenting Mr. Steese.

ADDRESS OF WELCOME

MR. JAMES A. STEESE

Chief, Bureau of Mediation and Arbitration, Pennsylvania Department of Labor and Industry

HARRISBURG

I know that when an audience assembles and the announcement is made that a speaker whose name is on the program, and whom all are anxious to hear is absent and a substitute is presented by the chairman to fill the vacancy, there is always more or less disappointment on the part of the audience; and, in this case, the disappointment will be greater on account of the distinguished character of the man who was to have given the words of welcome. He was a former senator of Pennsylvania and has been a co-laborer with us in the Department of Labor and Industry for years and is now occupying the high and honorable position of acting commissioner of the Department of Labor and Industry.

I am here tempted to tell you a story that you, perhaps, have heard over and over, about a certain occasion when Edward Everett had been announced to speak, and being unable to be present, the president introduced another speaker who he said would *fill* Mr. Everett's place. The gentleman arose and said, "It is not my intention to *fill* Mr. Everett's place, but, with your kind indulgence, I shall endeavor to rattle around in it for a while." So, with your indulgence, I will not attempt to fill Mr. McNichol's place on the program, but try to rattle around in Mr. McNichol's place.

The speech which you have just listened to, and the array of facts presented so graphically by Dr. Patterson, leave little to be said of the objects and purposes of your meeting today; but I want to emphasize his statement that the big question we have now to deal with in Pennsylvania is this queston of the physical regeneration, or reconstruction, and industrial rehabilitation of the war and industrial cripples in this great state. While, as the Doctor intimated, statistics are not at hand to give definite figures regarding the number of these wounded cripples, yet I feel safe in saying that from the reports we have had and the lists of casualties published from time to time by the War Department, it is probable that the number of cripples and injured from the army that will return to the whole United States will be approximately 50,000 to 75,000. Of that number, let us assume that Pennsylvania's share is from 5,000 to 7,500. It is probable, judging from the history of previous wars and from our general observation, that of this number, those who will actually require extensive rehabilitation will probably be not more than 500 to 750. Now, this war has called our attention more emphatically to the real problem that we have to solve, and the machinery put in motion by Pennsylvania for meeting and solving the problem of the war cripples is, as we believe, with some amplification, that put into operation for the reclaiming and rehabilitation of the industrial cripples. Let me emphasize what our chairman has said about the matter of industrial crippled and injured.

Do you realize that he said that there were 577,053 accidents in the last two and a half years, and that 7,575 of these were fatal? And that already the compensation board has paid out on 159,659 claims, the enormous sum of nearly $17,000,000 for compensation? These figures are amazing and startling and call to mind vividly the wonderful work that we have to perform at this time. Now, Pennsylvania, I am happy to say, has been in the vanguard in all this movement, as our chairman has so well said; and we have the machinery in the Department of Labor and Industry to cope successfully with this problem, we believe. This problem looms large in Pennsylvania on account of the diversified and rugged types of industry that we have; for instance, the iron, steel, and other industries where fatalities and where the risk for the workmen are necessarily high, make Pennsylvania the storm center of this industrial problem.

The gentleman from the United States government who will appear on the program will, no doubt, tell you of the activities of the federal government and the great plan prepared by the Surgeon-General's Office for meeting this great problem; and also, probably, of the wonderful work already done by the Walter Reed General Hospital in this connection.

So, in welcoming you here today, gentlemen and ladies, I can only emphasize what has already been said in regard to the problem of the rehabilitation of the injured; but may I be pardoned for alluding to one more subject, and that is the project of making this reconstruction period an era of education. Now that the war is over, we should have an era of education regarding the immigrants. Immigration practically fell off during the war, and now that it is starting up again it will be easy to conduct a campaign of education. This system of education should be in charge of a state agency, such as the State Department of Education, the Vocational Bureau; or perhaps a division of the Department of Labor and Industry. This education should not only include training in the use of our language, but should take a wider scope and include such education in things essential for the immigrant's welfare as a future citizen.

We have a great state in industry. No other state has anything like the problem that ours has with 46,000 square miles of territory and over 30,000 separate industrial establishments, with 1,750,000 employees and with an annual pay-roll of $1,375,000,000. These figures do not include the workers in the anthracite and bituminous coal mines, the workers in mercantile establishments, or the vast army of those engaged in agriculture and domestic service; so the figures given by our chairman tell the wonderful magnitude of our problems of industry. The work that you, ladies and gentlemen, members of the profession of surgeons and physicians, have to do may be measured, to some extent, by the statement that there are in the industries of Pennsylvania fifty-seven varieties of occupational diseases, and the great majority are preventable. Therefore, this problem comes directly to you; and on you rests the greatest part of the work of rehabilitating and curing those injured in industry.

May I call your attention to a remark made by Mr. Kidner, I think, who stated that, of a thousand incapacitated men brought back from the war to Canada, something like 500 were not wounded at all, but were disabled by disease; and that less than 500 were crippled through wounds. This is a startling statement, and shows that physicians and surgeons will have to deal, perhaps, more with the treatment of disease than with the rehabilitation of cripples returned.

In conclusion, I wish to extend, on behalf of Mr. McNichols, a warm welcome to the City of Brotherly Love. I feel sure your deliberations will be not only of a highly interesting character, but beneficial and instructive as well, and I trust your stay in the city will be altogether pleasant. Again I welcome you to this conference.

Dr. Patterson: Scarcely four years ago, there was passed by the legislature of Pennsylvania an act that many thought was revolutionary, which is known as the Workmen's Compensation Act of the Commonwealth. The administration of that act has been in the hands of the compensation board and its chairman, who by his wise judgment, his ability and his fairness has endeared himself to all the manufacturers and their employees in our commonwealth. Our state has a grave responsibility resting on it which cannot be shirked and I know of no man who can present "The Responsibility of the State in Regard to the Problem of the Physical Reconstruction and Industrial Rehabilitation of the War and Industrial Cripples" than one who does not need a formal introduction to this audience, our good friend, Mr. Harry A. Mackey.

THE RESPONSIBILITY OF THE STATE

TOWARDS THE PROBLEM OF THE PHYSICAL RECONSTRUCTION AND INDUSTRIAL REHABILITATION OF THE WAR AND INDUSTRIAL CRIPPLES

MR. HARRY A. MACKEY
Chairman, Workmen's Compensation Board, Pennsylvania Department of Labor and Industry
HARRISBURG

I can address this audience with somewhat greater assurance than I have others similarly composed of physicians and surgeons, because I find by the program that I am assigned to a subject that can hardly lead to the question of the division of hospital and physicians' fees, or the inadequacy of the charges that physicians are allowed under our Compensation Law. In this connection, I may say that whenever, in any of our educational or humanitarian efforts, the individuals engaged in it or the organizations promoting the propagandas are satisfied with their work, then these individuals, or organizations, or even departments of government have reached the end of their usefulness. We are now in an era when we are constantly thinking, ever moving forward, and always imbued with the idea that no matter how laudable or how commendable have been our efforts, still they have been marked by feebleness and inadequacy, and we must always keep advancing. As the chairman has said, when the legislature of 1915 addressed itself to a partial solution of the problem of the relationship between the employer and the employee, involving, as it did, so many diversified interests, and ramifying in so many directions, it only took on a fair start; and, as the chairman again said, when we undertook the administration of this law, we did it with misgivings, for the reason that we knew it was an innovation in Pennsylvania, that we were trying to put across our state and make part of our civic life a new thought, and that we were addressing 8,000,000 conservative people. Pennsylvanians in the last analysis, are right, and their judgments are sound; but they are not the quickest to adopt the new nor the last to lay aside the old. We were projecting a new law among a people reared and brought up in the atmosphere of the common law. Our laws had never been codified. We were still dealing with the old sense of that relationship that had been brought here when our forebears came over to this continent. It was no easy task. As I look back over the past three years, while I do not want to rest in a feeling of satisfaction, because that is a dangerous state of mind to be in, nevertheless I must observe before this and all other audiences that the work of my associates has been nothing short of marvelous.

We have had the absolute cooperation of every agency of the Department of Labor and Industry. We first classified this state into compensation districts, and assigned referees to them. A word in passing about these gentlemen, ten in number: I can remember the day when they were all assembled for the first time in Harrisburg, and their attention was directed towards the nature of their duties and to the law that they were about to administer. They were told that they represented the common knowledge, the common experience, and, we hoped, the great humanity of the state of Pennsylvania. They had come from the four corners of the state, and were pioneers to go out and take this new law to the people. It was our belief that a new law, a humanitarian law, a law to protect the relations between employee and employer, should be taken to the people, rather than to force the people to come to some given center and receive the benefits of the law. The work that these men have done has been a notable one.

Before I advance to the real theme of my talk I want to pay a tribute to the newspapers of Pennsylvania. Every paper in Pennsylvania that has been brought within my observation has given an unlimited amount of space to the education of the public on the proper relationship that should exist between the employees and their employers. The pulpit has preached it. The newspapers have published it, and many lawyers have volunteered to exploit it with commendable zeal, notwithstanding the fact that they were working somewhat against their own advantage. The physicians have done their duty, although in the beginning they felt that they had been somewhat legislated against; and our whole citizenship of Pennsylvania has taken up this law and created a public sentiment in its behalf that will absolutely insure its continuation.

We are in a state of unrest. I observe that in a great meeting now going on at Atlantic City with reference to the commercial interests of the country (and very largely of the world), that the thought is being advanced by every speaker that we are now in a new era, for our recent experiences have opened our eyes. The railroad men and the great captains of industry are beginning to see that they knew very little about the problems that they have been handling in the past. Our experiences during the last eighteen months have opened our eyes and have educated us to the real standards of the democracy of industry possible by the determination of the proper relation that should exist at all times between the men who furnish opportunity for employment and the men who do the real work. In the administration of this law, there gradually developed in our minds the thought that it was just the beginning of developing a harmonious relationship to its fullest extent.

One of the sections of our law gives an injured employee, who has received an award of compensation for permanent total disability the right to file a petition with the board, asking for commutation to the present value of those continuing payments, and to have the same given to him in a lump sum. The board is empowered, when it hears the testimony and thinks that it is for the best interest of the employee and will work no hardship on the employer, to order it done. I mean that if a man has lost an eye, a leg or an arm, he is given a definite compensation at so much per week for a definite number of weeks. For instance, if a foot is lost, he gets $10 a week as a maximum for 175 weeks. Statisticians can readily tell you the present value of that compensation; for under the act, it is determined by deducting 5 per cent. at annual interests and producing a sum of money which, put at 5 per cent. interest during that time, would amount to the total payments if continued to the full period. Now that presents an opportunity for the injured employee to come and apply for present value payment for a multitude of reasons, some good, and some very bad. It gives the lawyer an opportunity to inspire the employee with the thought that ready money at this time would be a very valuable thing; and, of course, the lawyer's suggestion is not unassociated with the thought that it would be ready money in the form of a fee for him.

Very early in our administration it occurred to us that it was a dangerous experiment. The first case that came before us was that of a widow with six or seven children. Under the terms of our award, if it ran to its full culmination, it would continue until 1923. It would furnish her with means of support, or a guarantee against pauperism for herself and children, until that time. She came with a lawyer and wanted the money commuted to present value and given to her in a lump sum. We put ourselves on record that we were against the liberality of the Act in this respect. We felt that these people were unaccustomed to handling money in bulk; that they might easily be led into a precarious business or venture their whole substance in some nonessential enterprise. So we put the stamp of our disapproval generally on such applications. The right of making such applications opened our eyes to the future, and developed the thought of the reconstruction of the men crippled in industry. The thing that impressed us, particularly, was the multitude of applications that came from men who had lost an arm, an eye, or a leg, and who wanted to invest their money in a cigar store, a news stand, or some other unimportant business, which would mean nothing short of turning the man out as a loafer all his life. So the thought came to us that we had too many such nonessential businesses, and that the real thing to do for these men was to teach them the lesson that victory over their handicaps was the greatest conquest that they could achieve. We wanted to teach them that, because they had been so unfortunate as to lose a member, this did not license inactivity; but to the contrary, that their duty was to apply themselves to some particular occupation in which they could become as efficient as possible.

In that respect, I want to pay a deserved tribute to the great employers of Pennsylvania. I am making now, through the department, an intensive study of all our permanently injured cases. We are following up all our commutation cases. In a short time I shall have a printed report showing to whom we commuted money, for what purpose, what led us to do it, to what purpose the money has really been applied, and whether in each particular case we exercised our right wisely or unwisely; in other words, how that sort of thing has worked for the future of the men.

I have just received a suggestion from one of our workers, who is devoting himself to that particular subject at present. He has just been through the Carnegie steel plant. Since our law went into effect, and I presume before, but in this plant today, not one man has lost his position or the opportunity for work because of an accident. If a man loses an eye, an arm or a hand, for instance, he is taken back and put in some position of activity where he can be as efficient as possible under his handicap. That is the idea behind this whole thing about which you see so much in the newspapers and regarding which you hear so much discussion, the reconstruction of the crippled man. It was fortunate that at this crucial period it should have been projected so thoroughly and convincingly among our people, and the whole subject visualized because of the patriotism of the country, incidental to the injuries growing out of the war situation. These are important, as I have said many times; and no man should be so unpatriotic nor penurious as to deny every penny necessary to reconstruct and rehabilitate the boys who have gone over and given up their efficiency so that democracy should survive, but we have this problem in industry with us always. The plants are grinding out every year more casualties than the war has produced. The unfortunates of war can be called acute, while the industrial cripples are chronic. We have had them with us always, and always will. We have sent for the employer and asked him to take the men back and give them the opportunity for work. We did this under our Act, because it is of advantage to the employer to do it; for as soon as he can establish a man with an earning power and the employee does earn wages, then compensation is reduced from total to partial. In doing this, you add to the production of this country and lift the dark clouds from about the man. He can detect the silver lining. Take a man who has made up his mind that, because of his misfortune, his days of usefulness are over; you lift him from a state of despondency and give him a brighter outlook, and make a useful citizen of him.

I am embarrassed in speaking on this subject this morning, because I am preparing something for the Congress of the United States next week, and do not want to discuss in any way the thoughts that I will lay before that body; for I realize that that meeting will be important. There is pending before Congress what is called the Smith-Bankhead Bill. I am not prepared to say that I endorse all its provisions, but its principle is right. Some time ago this subject of the reconstruction of the war cripple was taken up by Congress, and there was passed the Smith-Sears Act, the administration of which was referred to the Federal Board for Vocational Education. The plan was fine, but I am not prepared to say how it has worked out. My real thought is that it has been handicapped by the attempt to centralize all power in Washington, to the elimination of the activity and independence of the states. That may be the criticism of the Smith-Bankhead Bill, but its principle is also right. It was intended to give the fellow who has been hurt an opportunity to accommodate himself to some other employment. A man who loses an eye, for instance, does not want to go back to the same occupation and take the chances of losing the other eye.

This feeling in many cases will keep a workman not only from going back to that work, but from going into any work at all. That man can be reeducated to do something else, and placed at an occupation where he realizes that he will suffer no such danger in the future.

Some time ago I went to the Red Cross Institute for Crippled and Disabled Men in New York City. There, men have become pioneers in instituting a school to reeducate cripples. It is in a very elementary state still, but shows what can be done. I am going to give an illustration of what I saw there. I want to picture to you just two cases, which, I think, visualize the past and the future.

One of my colleagues, Mr. Leech, a member of the board, tells me that twenty-five years ago he stood at the operating table and saw a young boy have both legs and one arm severed by the surgeon. He had suffered some tremendous accident. Only a few weeks ago, Mr. Leech found that boy, now grown to manhood, sitting in a public park in one of the cities of our state. He is a useless citizen. He had wandered from pillar to post. He had made no friends. He had acquired no specialized means of livelihood. He had done this and that, and had finally been kicked out of his last place because of inefficiency. He was begging in a public park.

Here is the second picture: A few years ago, up in Reading, a boy met with an accident. He was stealing a ride on one of the trains of the Reading Railroad, and was either pushed off, or fell off. He was under seven years of age. He lost both legs and an arm. He fell into the hands of one of our lawyers. He took this boy's case into court. The boy was nonsuited. Of course, the first impression of justice made on the boy's mind was unfortunate. He thought that there was no law in this country made for a poor boy. He wandered away from Pennsylvania, and got to New York City. There he was picked up on the street as a beggar. Right there is where New York went away ahead of Pennsylvania. He was not committed to any institution. He was not haled into a court for delinquents but was taken to the Red Cross Institute. There sympathetic diagnosticians looked him over. There was just one hand left to that boy, and something in his head that ought to be a brain. When I was there, he was sitting on a stool and was engaged in making drawings. They had discovered the latent talent there, and were giving him an opportunity. He was placed in a newsboys' home to board while receiving his education, and he is today doing mechanical drawing for a great railroad company.

There is the old idea, and there is the new. That is the possibility that is opening up before us. It has developed from workmen's compensation. I can confidently state that it is a state duty to train these cripples. We cannot throw these fellows over on the employer and say that it is his duty to take care of them and reeducate them. He has assumed his obligation in compensation and that is all that you can expect of him. All that you can charge against industry is a compensation for a certain period of time, while it is to the interest of the state that these casualties in industry create no permanent paupers. It is to the interest of the state that its citizens be educated and take part in new forms of activity. How this problem can be worked out, I am not prepared to say. Neither would I trespass on the prerogative of our incoming administration. I do know, however, that the next governor of Pennsylvania is in entire sympathy with the subject; that he goes into the position with a long experience as a business man, as well as a legislator; and that he is convinced that it is the state's duty to work out a proper solution of these problems for the injured man. I am against the centralization of all these institutions in Washington, because I believe that we can solve our Pennsylvania problems in Pennsylvania better than they can be solved on the outside. My thought is that either there should be a department added to our state-supported hospitals, or that institutions should be created in three or four parts of the state, equipped with men and women mentally qualified to teach. I have been told by army surgeons and others, who have given a good deal of attention to this subject, that they are just scratching the surface of the problem and that the opportunities for the wounded men are just dawning on the awakened intellects. I am sure that with scientific study at the hands of men such as you, there will be developed the full means of reeducating our cripples.

Sometimes a man wakes up, either in a hospital or at home, realizing that he has passed through the real crisis of his life, and that he has been left to support his family with one less eye, leg or arm. Surely you men are going to help create the right environment in Pennsylvania, so that into that room there will go the assurance of our great commonwealth that the days of usefulness for that man have not passed, for as soon as he is able, he will be placed somewhere for reeducation; and that his compensation will be continued for his family during the time that he will be taken charge of by his state, his foster mother, and that he will be taught so that he can again go out and take up some specialized undertaking, and become a useful citizen of our commonwealth.

Dr. Patterson: I am sure we have been not only pleased, but inspired, by this wonderful address of Mr. Mackey on the subject of the "Responsibility of the State Towards the Problem of the Physical Reconstruction and Industrial Rehabilitation of War and Industrial Cripples." He has pointed out the responsibility of the state, and I am sure that you will agree with me that the industries also have a responsibility that is twofold. In the first place, the majority of the accidents occur within the industries; and in the second place, it is to the industries that we must look for the future employment of the men who have become handicapped in the course of their employment. Out in smoky Pittsburgh, there is a plant in the forefront of good work for the benefit of its employees and for the good of the commonwealth. The Westinghouse Electric and Manufacturing Company needs no introduction, nor does one of its most efficient executives, Mr. C. B. Auel.

THE RESPONSIBILITY OF THE INDUSTRIES

TOWARDS THE PROBLEM OF THE PHYSICAL RECONSTRUCTION AND INDUSTRIAL REHABILITATION OF THE WAR AND INDUSTRIAL CRIPPLES

MR. C. B. AUEL
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EAST PITTSBURGH

In discussing the responsibilities of the industries in the reconstruction and rehabilitation of the crippled among workers, I would much prefer to look on the subject not from the standpoint of responsibility or duty but from the broader one of humanity and to discuss therefore, regardless of responsibility, how and how much the industries can assist in this great work. Happily the sudden ending of the war with less than 270,000 casualties among our troops will largely eliminate what everyone thought would prove a problem of tremendously increased size, leaving it, as formerly, one almost wholly involving industrial workers.

In looking at many film pictures during the past year showing individual cases of reconstruction and rehabilitation, I have been struck by the fact that so many of them showed wonderful ingenuity on the part of the individuals themselves but mighty little help from any one else, and this I think has in general been the situation. However, it is also the fact that there has been a gradually increasing feeling throughout the country, quickened undoubtedly by the great war, that this one-sided condition should not longer continue. As a result of this feeling, ways and means are now being considered whereby the work of putting back into the ranks of useful workers those heretofore considered largely as encumbrances, may be placed on an intelligent and scientific basis; and God knows if there is any class of humanity more deserving of our best efforts than those who because of us, or on account of us, or in behalf of us, have become crippled.

But reconstruction and rehabilitation will little avail unless they go hand in hand with prevention. It is not alone a matter of curing present ills but one of preventing future ills as well, and in this phase of it at least every individual has a share of responsibility and can help in some degree either directly or indirectly. Now by this I do not mean the prevention of accidents alone, methods for which have already been pretty well worked out if we can only enforce them, but I do mean ills of other kinds which in their turn produce, or tend to produce, cripples or defectives. For example, Mr. W. H. Long of the Pennsylvania Association for the Blind, told the speaker not long ago that 45 per cent. of all blindness was preventable, and that gentlemen of your profession were largely culpable in this matter because you often neglected certain simple precautions at the birth of children. His statement is largely borne out by a regulation of the state of Pennsylvania having, I understand, made it a misdemeanor not to use a 1 per cent. solution of nitrate of silver as an eyewash on such occasions. I might add in passing that had I my way you would also be fined for not using a 100 per cent. solution of something worse on some of the Bolsheviki you have landed on this sphere. If this is a good regulation why has it not long since been made universal, and can not those of us here do something, Mr. Chairman, towards helping it along, if to do no more than to ask the proper department of the national government to call to the attention of the several states still without such a rule the desirability of having one?

In certain of our works we have made physical examination of applicants for employment, a necessary requisite to placing them properly as well as to eligibility for membership in a very successful health insurance organization and you will be interested in seeing a tabulation of some of the data thus obtained.

The first table is for men and shows the principal defects encountered and their relative proportions.

PHYSICAL EXAMINATION OF MALE APPLICANTS

	PER CENT.
First class	17.2
Vision	6.0
Hernia	22.2
Varicocele	0.8
Venereal diseases	0.6
Teeth	5.0
Tonsils	1.6
Two or more defects	44.1
Miscellaneous	2.5

The second table shows a similar record for women.

PHYSICAL EXAMINATION OF FEMALE APPLICANTS

	PER CENT.
First class	28.0
Vision	10.7
Varicose veins	0.9
Teeth	36.4
Tonsils	0.9
Heart	0.1
Lungs	0.3
Two or more defects	15.5
Miscellaneous	7.2

Many of the defects are such that simple means could be used for their cure, as for instance, operation for hernia, glasses for defective vision, removal of tonsils, filling of teeth and so on.

While we have had some success in inducing applicants to have their defects remedied, even going to the extent of furnishing surgical attention free, in general they will not avail themselves of the opportunity unless suffering actual physical pain. Here is first-class professional advice given without charge, advice which, if sought by the applicant, would cost each one from $2 up, usually up, depending on the nerve of the examining physician but being given by us in the majority of cases uselessly. Other concerns are doing the same as are we and doubtless meeting with the same indifferent success. How to have such advice followed is one of the problems confronting the industries in their study and work of sickness prevention. Again, the data shown you indicate that had the proper knowledge of the care of children been in the homes, many of the defects would never have arisen or if existing would have been corrected before the industrial age. Such limited investigations as we have made along these lines, evidence a deplorable lack of even the first principles of home hygiene and this is more noticeable among the foreign-born, especially the unmarried. How this needed knowledge can be introduced into the homes is another problem.

Some time ago a disease known as "bone dry," which in years gone by had been almost wholly confined to the pulpit and the lecture platform, commenced to spread throughout a number of our neighboring states closely followed by smallpox in almost epidemic form. As to whether or not this disease may be expected to bring other ailments with it, or whether the two going together was simply a coincidence, has not yet been definitely determined. The medical profession observes its usual conservative attitude as to expressing an opinion while our political school has no doubt on the subject, claiming that depleting the human system of its alcoholic content removes a commonly recognized safeguard for the preservation of health, leaving it exposed to almost anything.

My observations show that many workers, while not politicians, belong in this respect to the political school, and during the recent closing of the saloons could be seen in various other places backing up their convictions in the strongest kind of fashion. It is astonishing to find how much it takes to overcome such convictions. What is going to happen after next June when the whole nation goes bone dry and alcohol is to be found only in museums for the preservation of specimens, I hesitate to contemplate, but it looks as if the museums would be robbed quite frequently. Our state has thus far escaped the bone dry disease as well as the smallpox, although the latter has shown itself in certain districts on several occasions. The State Department of Health accordingly asked us as well as a number of other concerns to institute vaccination as a preventive measure. This we did in several of our plants, making it a part of our regular physical examination and furthermore extended the offer of free vaccination to our entire force. While very few of those already employed took advantage of the offer, we are glad to say there has been little objection made by the new employees, most of them appreciating the fact that we are endeavoring to safeguard them and their fellow workers; but the point I wish to make is that the great majority have not been vaccinated since their schooldays, having long since forgotten, if they ever knew, the necessity of revaccination, while a considerable number, particularly those from the southern and western states, have never been vaccinated. Here again, the industries are helping, but who is to stir up those states where vaccination is not made compulsory in the case of children, and how can the grown-ups everywhere be impressed?

While on this subject, I want to say that our state throughout its length and breath, is almost totally unprepared to cope properly with any epidemic, having but very few hospitals for handling contagious diseases. Of course, this statement is an obvious one after the woeful exhibition made in connection with the influenza. But, nevertheless, think of Allegheny County, one of the world's busiest workshops having no place whatever (if we except the city of Pittsburgh's own small Municipal Hospital) where cases of smallpox, diphtheria, scarlet fever and the like can be handled, and the same is true of almost every other county in the state. We talk about the fearful death toll exacted by the industries every year and very properly say it must be reduced, yet it will take the industries of this state half a century, or longer at the present rate, to equal the toll taken by influenza during the past few weeks. But we look on this awful epidemic rather as an act of Providence (it's a mighty easy way of sidestepping our responsibilities), as something to be borne with Christian resignation; whereas had we had the proper hospitals who shall say by how much the mortality might have been reduced. We have these epidemics at intervals, so let us hope we will be better prepared to cope with the next one.

In the meantime the industries undertake to handle all cases of contagion found on their premises and the more perfect their medical inspection, the more they find; and the more they find, the greater the expense in which they become involved. As an instance, we hired a worker from Detroit who after the lapse of a few days appeared at one of our medical stations covered with a rash and with other symptoms of smallpox. We at once communicated with the health authorities of the borough and the county, holding the man meantime in an isolated room. In due course the said authorities arrived and backed us up in our diagnosis, which naturally was very flattering, further assuring us it was our job to handle the case, which was not so flattering. The borough authorities claimed that, as he had only recently arrived in East Pittsburgh, he had not become a citizen but was still a native of Detroit. Realizing the deep logic as well as the unanswerability of such an argument, we set aside one of our small houses and took the case in hand, the borough simply furnishing a guard so the man could not escape, although he was too ill most of the time to move and a guard quite unnecessary; nevertheless, the action was indicative of their generosity. On recovery the man showed his marked appreciation of our efforts in his behalf by promptly leaving us and returning to Detroit. This is the only authentic instance I have found of a worker ever leaving Detroit.

A little later we had a second case of smallpox develop like the first in an employee who had been with us but a few days and again the borough proved the man a foreigner because he came from Wylie Avenue, Pittsburgh. Through the courtesy of the aforesaid Municipal Hospital we were permitted to send the patient to them for the trifling expense of $10 per day for thirty days, at the end of which period he had made a good recovery. I might add that he, too, in appreciation of our efforts, left our employ promptly, probably to go to Detroit.

As a result of our efficient methods of handling these and other cases of contagious diseases, a curious epidemic broke out among the boarding houses in the vicinity of our works. They, one and all with one accord, commenced to send us their sick boarders who were our employees, actually turning them, in one or two instances, out on the street, so that a stranger would have thought we were a hospital instead of a concern for the manufacture of electrical apparatus.

On our own recovery from the rapid sequence of events just related, we decided to investigate where, in the state, hospitals for contagious diseases might be hidden, but found to our regret that, although there is a law empowering the commissioners of each county to raise money for the establishment of such hospitals and for the directors of the poor to undertake their operation, nothing more has been done, as already told you, in practically any of the counties.

Accordingly we issued a call for a meeting of borough officials and representatives of manufacturing concerns to consider the subject and, as a result of this and subsequent meetings, the county commissioners drew up plans for a very comprehensive building and, had it not been for the war, I feel that Allegheny County at least would by this time be better prepared to handle contagious diseases.

If there are representatives of manufacturing concerns from other counties here today, I suggest you go back home and stir up your county commissioners the same as we have done.

During the recent influenza epidemic we inoculated about 5,000 of our employees at a nominal cost to them of 25 cents for the complete set of three treatments and at the time my paper went to press had only been asked by one employee to pay him a bonus he had lost because of his absence due to indisposition to work resulting from the treatment. This is a decided improvement over the record we made when we first commenced vaccination. A number of our colored janitors who had undergone vaccination became afflicted with pink eye and notwithstanding our efforts to convince them to the contrary, I am afraid some are still persuaded that vaccination, if it does not actually cause smallpox, will at least produce pink eye and we should have accordingly reimbursed them for lost time. As a matter of fact we have in a number of cases paid for lost time where it was felt vaccination was probably the cause.

Some time ago the esteemed chairman of this meeting, Dr. Patterson, made the statement that of male workers 10 per cent. could be expected to develop hernia before the age of 45 years was reached. At one of our previous conferences I commented on his statement to the effect that, startling as it was, employers of labor need not be unduly alarmed, because we had located the entire quota of this state in our own works. I am now happily able to announce further that, having effectually cured all of these, we are commencing to make direct importations of similar cases from New York, Ohio and other foreign lands in order to keep our surgical staff employed.

There have been various articles written on the cost of hiring and firing employees and the desirability of reducing labor turnover for this and other reasons, but until our company called attention to the matter no one, so far as the speaker is aware, seemed to appreciate the fact that the greatest single safety device against accident any concern could introduce into its plant was minimum labor turnover. In our own works if we could eliminate all labor turnover for one year we would at the same time prevent 76 per cent. of our accidents, but even this statement does not tell the whole story. Such accidents average 39 per cent. greater in the period of disability than do those happening to employees who have been with us longer than one year. You will see therefore that reasons exist, both selfish and unselfish, why every concern should do its utmost to solve the problem of labor turnover, but here again is there not something for the individual worker to consider and not be so ready to quit one job for another?

I have instanced these several things to illustrate not what any one company is doing, but as showing what is being done throughout the country by many concerns to prevent the disability of their workers and thereby to assist in reducing (quite apart from the safety movement) the amount of reconstruction and rehabilitation otherwise necessary.

Turning now to the reconstruction and rehabilitation of employees who have been disabled through accident or otherwise, and I feel that as far as disability from accident is involved, it is without question the duty of every concern to do everything possible for any of its employees who have been so unfortunate as to be injured in its service. This includes the furnishing not only of all necessary surgical and hospital care regardless of expense in getting the injured back on his feet promptly, but the further supplying him with any apparatus he may need to earn a livelihood, as well as the giving him a job where he can make, if at all possible, at least as much as before the injury. Our company has with a certain few exceptions, made this its regular practice for many years and moreover pays compensation from the date of the injury and at the rate of two thirds wages with a maximum of $15 per week, providing the employee is a member of our Relief Department, an activity of the company covering health insurance as well as insurance in case of accident off duty.

In the cases of employees disabled by sickness or accident occurring off duty, we furnish free medical treatment if their ailments are such as to permit them to call at our medical headquarters for consultation and advice. In occasional cases requiring hospital operation and treatment, we are enabled, through having a ward of our own in a nearby hospital, to place the employees there and to perform the operation and render subsequent treatment free of charge, the employees simply paying board and the usual fee for the use of the operating room to the hospital. In those cases where tuberculosis is suspected, we get the employees in touch with the county representatives of the State Department of Health for immediate examination and, if tuberculosis is found, render every aid in locating them at one of the state sanatoriums. Forming a part of our medical equipment we have a very complete roentgen-ray outfit and this is not only used freely in every case where any bone damage is suspected, but is further placed at the disposal of employees and their families for other work, the charge then being $5 for two plates.

Additional to this over 19,000 of our employees are members of our Relief Department and as such receive benefits ranging from $2.50 to $16.50 per week after the first week of disability from sickness, or immediately after disability if due to an accident occurring off duty. These benefits are continued throughout the entire period of disability regardless of its length. Of course, it would be impossible to carry on an insurance scheme of this kind, did not the company assist very materially by paying all running expenses, thereby enabling the dues of the members, which range from 25 cents to $1.50 per month, to be reserved wholly for the payment of benefits. Should the disability continue until the age of 70 years is reached, the employee, if a member of our Relief Department, is transferred to our Service Pension roll, and this feature likewise applies to employees injured on duty.

When employees have recovered, whether from accident or sickness, if unable to resume their former work, effort is made to place them advantageously both from their own and the company's standpoint. Just where they are placed depends on the nature of their disability, the work they are still enabled to do and what classes of apparatus we are building. We have made a very careful analysis of the various occupations connected with our works with the result that there are ninety-two kinds at which we could employ one-legged men, nineteen kinds at which we could employ one-armed men and sixteen kinds at which we could employ men with both legs off. You will understand that each of these kinds of occupations may require several men; for instance, the ninety-two kinds of occupations at which one-legged men could successfully work, would in normal times supply jobs for 292 men and so on.

One of the disabilities we have not yet been able to cope with successfully, we regret to say, is blindness. We conducted a number of trials over a period of several months in conjunction with the Pennsylvania Association for the Blind, and at their headquarters; but, while the operators could eventually do the work, they could not meet commercial prices. In our own establishment and with work of a different kind we were no more successful.

A company having properly placed back in the ranks its own injured upon recovery, it seems to me it is only right that it should endeavor to provide employment for a certain percentage of others maimed ouside of its service, or even old in years, who may apply for positions. However, it is hardly right to expect the industries to bear entirely the extra hazard in so doing, for there is no use denying the fact that an extra hazard does exist in both of these classes of workers. This difficulty could perhaps be met by provision being made for the state taking on the insurance for such individuals without charge to employers.

At one of these conferences I had the pleasure of listening to the head of the medical society of this state give fifty-seven varieties of reasons, more or less, why remuneration allowed surgeons should be increased. I agreed with all he said, but surgeons who heard him, or read his able paper, must have thought he was actually expounding the law on the subject, for the charges for services rendered apparently commenced to be raised shortly after and are still going up. While I am sure the original limits set should be revised and more particularly specified, there are mighty few surgeons suffering either from the modesty of the law or their own retiring dispositions. It has always struck me as remarkable that although a doctor is conservative in expressing his opinion as to what is wrong with a patient, he never has any doubt as to the value of his services. I ask you what is the good of curing one ailment if you leave the patient with another as serious as weakness of the pocketbook. Some surgeons actually seem to get paralysis of the hand when attempting to write out a bill for less than $25—the attack being less marked, however, with every $10 increase until $50 is reached, when normal functioning commences to be reestablished.

A far more serious matter, however, is the charging of high prices, and yet turning over the actual work to younger surgeons with inadequate experience, the result being that the patient, more properly called the victim, is sometimes crippled, or else must undergo a further operation to effect a cure. This sort of thing has not yet become common practice, but enough of it has already occurred to cause discussion among the industries and I can assure you if continued it is going to go hard with more than one individual besides the patient.

When I think of these things I am reminded of the doctor's little boy who came to his father one morning and told him of a dream he had the night before. Said he, "Daddy, I dreamt last night I went to heaven, and to go there I had to walk out into a great big field where there was a ladder which went way up into the sky. And an angel stood at the foot of the ladder giving out pieces of chalk to those who wanted to climb up to heaven. And the angel said everyone must write down on each rung of the ladder, a sin they had done before they could step up to the next rung. And after they had written down in this way all of the sins they had done then they could walk right on up the ladder without any more stopping. So, daddy, I took a piece of chalk and commenced to climb the ladder putting down on the rungs all of the naughty, wicked things I had done, and after I had gone a long, long way up, I met a man coming down and that man, daddy, was you." The father, who had been listening intently, said, "Indeed, and what was I coming down for, son?" "Daddy," answered the boy, "you were coming down for more chalk." Gentlemen, I leave it to your own conscience as to the amount of chalk each of you is going to need.

In addition to the preceding there is one other matter in which you have my profound sympathy. I refer to the necessity of obtaining a license before you can practice in this state. No doubt such a device may have been required when Pennsylvania was the only civilized state in the Union, but I submit this law has long since outlived its usefulness and should be placed in the library at Harrisburg as a relic of a bygone age.

In its stead I would like to see a course in penmanship established, such a course being made retroactive and every physician in the state compelled to subscribe, so that the average prescription would look less like a Chinese laundry sign.

I can speak pretty feelingly regarding this law, because the war, as you know, produced an acute shortage of surgeons, with the result that our company was in sore straits to man its works properly. Had it not been for the Department of Labor and Industry and the United States Public Health Service coming to our assistance, whereby we were enabled to make use of surgeons whether or not they were qualified to practice in Pennsylvania, I am at a loss to know what we should have done. As it was, they worked out a scheme which enabled us to induct some twenty-five or thirty of our surgeons into the United States Public Health Service, thereby permitting us to keep our medical staff up to its standard of efficiency.

As to how much, specified in number and kind of crippled or defective workers, the industries can handle, this is a question largely impossible to answer, notwithstanding the questionnaires sent out by the state and national governments asking the industries to do so. In some lines, of course, where the output is steady the year round, it can be stated, but these are rather in the minority, while in the majority of industries the output fluctuates. We are all optimistic as to the future, however, and if the national and state governments can help keep business going by undertaking perhaps the construction of public works in lieu of the munition work recently canceled, there should still be continued prosperity; in any event, be business good or be it bad, the industries will, I am sure, do more than ever before not only to prevent their workers from being crippled, but to take care of those who meet with misfortune, either through accident or disease.

Dr. Patterson: I am quite sure that this address by Mr. Auel will receive a large amount of discussion at the conclusion of our meeting. We all know that while it is claimed that Christian Science is efficacious, Christian Science has never been able to replace an arm or a leg that has once been severed. So it is necessary, in the reclamation of these disabled men, to have mechanical aids, in order that the cure may be complete. In previous meetings we had, on one occasion, the pleasure of hearing from Major R. Tait McKenzie, of the very remarkable work that had been done by the British government in taking care of those disabled by war; and it will be our very great privilege this morning to have Major McKenzie tell us something of the subject of "Mechanical Aids to Reconstruction."

MECHANICAL AIDS TO RECONSTRUCTION

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PHILADELPHIA

This is the second time, as your chairman has said, that I have had the privilege of addressing this body. On the previous occasion, it was to give a more general idea of the work that was done by the Royal Army Medical Corps of Great Britain for the reclamation of disabled men. This morning, I purpose to confine myself more closely to the subject of "Mechanical Aids in Reclamation."

There are two classes of crippled men: those for whom nothing can be done, and those for whom something can be done. If part of the body has been taken away, it is gone. You can not replace a hand that has been blown off, and however good the artificial device may be, it will never compare with the original hand. In the war now so happily ended, there were innumerable cases of men struck by fragments of shell, showing parts of the body struck off as by a blunt knife, in which half of the face was missing, in which parts of the shoulder or parts of the leg were gone, just bitten out, so to speak. Now, no matter how much plastic surgery may do, you come to the point where it can do no more, and the patient remains an object of repulsion to others and a source of embarrassment to himself, which means a real industrial disability.

In the second division the functions are merely damaged and not destroyed. These patients can be reeducated and made efficient by means of mechanical appliances, such as splints and apparatus for physiotherapy; and are also dependent on mechanical devices, to a large extent, for their progressive treatment and reeducation.

It is hard to realize that a man who has lost one arm or two arms not only has to earn his living, but also has to be doing continually the little unconscious acts that we take for granted, so automatic have they become; and we find that a one armed man is usually sensitive on this point. He does not like to feel himself dependent on others. He hates to attract attention. For the purpose of making it easier for such persons, there have been many devices designed; and I will show you a couple of them here. They were designed by Dr. Arthur E. Shipley of Cambridge University who was associated with the great hospital at Cambridge, England. They are what one would expect from a man of keen observation directed by a kind heart.

This is a plate. It differs from an ordinary plate in having an overhanging lip, so that a man using a fork can corner his food against the upright at the side. This enables a man to feed himself without assistance or without attracting attention to his disability.

Here is a soup plate with a hollow in the center; without tilting his plate our patient is thus able to get all the soup that is coming to him.

Long forceps have been devised for a man who cannot bend over far enough to reach his shoes. They enable him to lace or unlace a shoe, put on a sock or take it off, without assistance.

If a man has lost both arms, he is in a much worse straight. He cannot even read because he cannot turn the leaves of a book. To help him, Dr. Shipley has designed a rubber tipped rod ending in a disc that the patient holds in his teeth. When not in use it rests on a pair of legs which keep it at a convenient height to the mouth. When wanted he picks it up in his teeth and can turn the pages of a book or magazine without assistance.

These are not medical questions, although they are intimately associated with treatment. They are questions of the utmost importance, however, in increasing the comfort and happiness of these men for it takes a long time for a man to accustom himself to such a deformity. An ingenious device for a hand that is weakened or stiff has been designed at the Surgeon-General's Office. A piece of soft dental wax is molded to fit the hand. It is then hardened and the hand strapped to it in its best possible position, by attaching to this a handle the man is able to use a tool which he would not otherwise be able to grasp.

There is a class of cases which is, so to speak, by itself; men who have been badly mutilated in the face, in whom much of the bony framework of the face has been destroyed, so that plastic surgery cannot repair the deformity. These cases, after plastic surgery has done all it can do, must be left until the wound is soundly healed and no further shrinking will take place and then a mask must be modelled.

Before going into that I want to show, at this point, an artificial device for a missing hand, which you will see in the film later, but not so large or so closely. This is a working hand, or "salary hook." It is replaced on Sundays by the more beautiful artificial hand, which is not nearly so useful. As you see, this is a strong metal hook or rather pair of twin hooks with a ratchet on the upper side, and a tongue going between them composed of flexible steel. There is a little catch, by opening which you can vary the hole through the hook and make it any size you wish, to hold an object like the handle of an awl or a hatchet. Just below is a joint allowing it to go from side to side; and below that again, a joint that allows it to go around on its axis. By these two joints, which can be tightened or loosened to any extent, you get the four movements of circumduction and rotation.

The two cases shown in this slide came under my care in England. In the upper one, the malar bone is gone. The man was sighting through a loophole in a parapet, and the bullet came through the loophole and took away his malar bone. He was treated by means of a mask, such as I will describe, and afterwards became a chauffeur. The other case is less marked. The man was lying on his face, and the bullet came down through the eye and the nose and tore the lip.

This man was also wounded in action. Both the malar bone and the eye are gone. In this case an artificial eye was made, and a plate over the cheek, in one piece and attached by means of glasses. The process of doing this was worked out largely by Lieut. Derment A. Wood at the Second London General Hospital. We further experimented with it and improved it last year. We undertook a series of experiments at the Dental School of the University of Pennsylvania, and at my own studio, where we had a series of cases referred by physicians.

This is one of the cases on which we worked. There was complete destruction of the nose by an epithelioma. We made a cast of the face, and then modeled the nose in plastolene, on this cast. From the completed model a cast in wax was made, and on it a thin film of copper was deposited. This was silver-plated, and then painted, and attached by glasses, as you saw in the second picture. This woman is able to go about without attracting any attention whatever, and it is a great source of comfort to her to have this artificial nose, which she can put on and take off with her glasses.

This is George, who was at one time a carpenter, up the state. He made a very good living until an epithelioma of the nose developed. He went to many physicians for treatment, and finally came into the hands of Dr. W. L. Clark of Philadelphia, who destroyed the growth by his desiccation method and got a complete cure, but with this terrific loss of tissue. The upper part of the nose is gone, and the front part of the superior maxilla. He has no upper lip. There remains only the lower lip and the lower jaw. He was able to close the mouth, but it came right up against the posterior part of the palate. So repulsive did he become that he gave up his trade, took a small farm and began raising skunks. He felt, I suppose, that his charges and he both being outlawed by society, they would get a certain amount of comfort from association and his sense of smell was gone. On entering an elevator in which he was one day, a lady fainted at the sight and had to be taken out. We took a cast of the whole of the front of the face, modeled the nose and upper lip and made a mask such as I have described. We also made an artificial moustache, putting it on the mask.

This is George after the mask was put in place. You see that the disguising of the deformity is perfect. The nose is attached to the glasses. Then, on each side there is a small post attached to the mask and the glasses, which holds it in place and keeps it from slipping down by pressure at the root of the nose and over each malar bone. So successful was the mask that George was enabled to renew addresses that he had been paying to a lady at one time; and within a short time, he was able to lead her in triumph to his skunk farm, where they are living happily ever after.

We now begin the film. The second class of cases, about which I spoke earlier, are those in which you can restore impaired function by mechanical means. Now these appliances have been under development for a long time. We started at first in England, by making rather crude apparatus for the strengthening of weak muscles and the stretching of stiff joints; and these have been continuously developed, both there, in Canada and here, until a standard set has been obtained that is down to the minimum number and that covers the main joints and muscle groups of the body in the treatment. (Here the lights were put out and Dr. McKenzie showed the films. After the lights were turned on, Dr. McKenzie concluded his paper with the following remarks):

There is no essential difference between the problem in military and in civil life. Your problem deals with the chronic conditions of industrial life while the problem of the military surgeon was to meet an acute and urgent necessity brought about by the sudden and overwhelming casualties of war.

Dr. Patterson: I am sure that our own United States cannot do more than at least make an effort to try to emulate the perfectly wonderful work that has been done by Canada in the war.

The next subject before us is the "Reclamation of the Diseased" and, when we turn to the statistics, we find that of those invalided home more than 500 of each 1,000 are cases due to disease, and that the balance are due to wounds. It will be our pleasure and privilege today to have Dr. Alfred Stengel of the University of Pennsylvania tell us of the "Reclamation of the Diseased."

PREVENTION OF INDUSTRIAL DISEASES AND THE RECLAMATION OF THE DISEASED

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PHILADELPHIA

I have taken the liberty of changing slightly the title as announced, and have added to it "Prevention of Industrial Diseases," because, in a measure, it is always proper before discussing any sort of medical treatment to introduce observations on the prophylaxis or prevention of the diseases under consideration.

Before taking up the latter, however, may I add further that terms like reconstruction, restoration and reclamation are such alluring catchwords that they sometimes carry us along with enthusiasm and lead to attempts at doing that which cannot very well be accomplished. Restoration cannot go beyond the point from which the individual started before he suffered injury; much therefore of what I shall have to say will deal with the supervision or examination of individuals before they enter on industrial occupations with the idea of ascertaining not only the suitability of the individual for a given industry, but also for the purpose of determining his standard before he was subjected to unusual strain.

The program of reclamation sometimes leaves out of consideration this very important factor, and the attempts at restoration may fall short of what is desirable, not because they have been carried out improperly, but because the preceding condition of the individual had not been taken into consideration. Our recent experience in the war has shown us how important this preliminary survey of individuals is. The War Department of the United States, guided very largely by the experience of other countries, adopted a wise program of careful physical inspection and examination of those who were to be inducted into the service, and I have it at first hand from a number of my friends who were in France, as medical officers, that they there appreciated the extreme value of what was done in the way of selection of the men for army service. It would be easy to pick flaws in the method or system of examination conducted in this or that place, but the end result was certainly extremely satisfactory.

The establishment of special boards for the weeding out of cardiovascular and pulmonary defectives worked out very well, and the consequence has been that in our army there have been less breakdowns in these directions than in any other army that participated in the war. Of course it is but fair to recognize that our participation in the war was a much briefer one than that of the other armies, and that the latter had their worst experiences with physical breakdowns of their men at dates somewhat more remote from the beginning of activities than the time that has elapsed since we entered; but it seems very likely that on account of the more careful selection of our men, a longer interval of time would still leave us in a more favorable light.

This matter of preliminary examination, so important in connection with military service, is only slightly less important in the case of many industries, and it is to be hoped that the plan of proper placement, based on physical condition will eventually become a possibility in all industries.

PREVENTIVE MEASURES

Before we can very well discuss the diseases or conditions against which it is desirable to protect individuals, it is important to state the elements or factors that enter into their debilitation. What is it that breaks down people in industry as a rule? Standing at the head of the list, I think, should be fatigue, which occurs in so many different ways and from so many different sorts of causes, not only in industry, but in the everyday life of people generally. Monotony, which is one of the subsidiary elements that enter into the production of fatigue, must also be mentioned. In certain industries extremes of temperature are the most serious causative agency; in others impure air, dust-laden air, and exposure to poisons disseminated in the air, or conveyed to the individual in other ways. In military service several other elements of importance must be considered, such as prolonged anxiety, fear and unavoidable loss of sleep. These elements do not apply very largely to industry, though here and there, in a minor degree, they may have their place.

When considering the prophylaxis or prevention of industrial diseases, we must first of all consider how these conditions may be obviated. Already a beginning has been made by the public health authorities here and in many other states by the establishment of "safety standards." These, in the end, will be seen to be as important and perhaps much more far reaching in their importance than are the "safety devices" used to prevent industrial accidents. The elimination of dust by the use of proper systems of ventilation and by judicious spraying or application of moisture in other ways; the control of excessive temperatures; the installation of suitable lighting; the regulation of ventilation; the introduction of rest periods to prevent undue fatigue, and proper sanitation, canteen facilities and housing are some of the measures of prime importance. The end result of all of these will be not only a considerable reduction in the incidence of industrial diseases, but also a material increase in the productivity of labor. In either direction, and certainly in the two combined, there will be repayment many times over for all the cost of instituting new arrangements, sometimes not without considerable initial expense.

So much for the question of prevention, the two items that I have mentioned are that first of all we shall see to it that reasonably normal individuals are selected for industries, demanding a certain standard of health and physique, and that workmen shall be selected with reference to their physical capacity; in the second place, that industries shall be so surrounded with safety standards that unfavorable conditions will be eliminated and diseases thereby prevented. If we take care of these two requirements, it is quite certain that the amount of disease that we will have to consider as calling for reclamation or restoration will be materially diminished, and we shall not find ourselves attempting to restore to full health individuals who were below par in physique before they entered on industrial work.

RECLAMATION OF THE DISEASED

Let me first of all indicate some of the groups of conditions which especially call for consideration, and which constitute the greater bulk of the industrial diseases. I do not pretend to say that all of the conditions that I shall allude to are in a strict sense to be regarded as industrial diseases; I mean, rather, that they are diseases occurring in individuals actively engaged in industry, and not of necessity wholly dependent on any peculiar hazard in such occupation. We may recognize general and special types of diseases among industrial workmen, the former being conditions arising from close application under more or less suitable or unsuitable conditions; the latter being diseases dependent in a strict sense on the particular and peculiar hazards occurring in this or that industry.

The first and perhaps the most important group of conditions met with among workmen is that which comprises various types of nervous depression, including all varieties of neurasthenia and nervous exhaustion; also traumatic and occupational neuroses. Heat exhaustion perhaps should be considered in this group. It is to be observed that the responsibility for the development of these nervous conditions must not be wholly laid at the door of industry. In a large measure home conditions or factors entering into the life of the individual quite outside his work play an important and perhaps a predominant part. This is particularly the case with women who are more liable to the nervous depressions resulting from overwork than are members of the opposite sex.

My own impressions in this matter have been largely derived from hospital practice where we see debilitated women constituting a large part of the number of women admitted to the medical wards. Very often women engaged in industrial work become thoroughly wrecked in their nervous systems by reason of the fact that the preliminary stages pass unnoticed, and attention is not directed to their condition until the wreck is pretty nearly complete. Not rarely it happens that some local disease may be the immediate occasion for the entrance of such patients to a hospital, though beneath the surface physical and nervous exhaustion is the important underlying disease. We physicians are so keen in our pursuit of the specific causes of disease or infective agent, and are so bent on immediate relief by removal of focal infections that we somewhat lose sight of the underlying conditions which render individuals susceptible to the all-prevading bacteria.

To be a little more specific, what I mean is this: Take the case of a woman engaged in industry and living under poor conditions at home. She comes under observation with a sinus trouble and this is drained; then she has another sinus trouble which is again corrected; then she may suffer from infected tonsils which are removed; still later some form of specific serum treatment is given and so on. Always there is the search for a definite specific cause of her ill health, but the physical and nervous debility which underlies the susceptibility to these successive infections is frequently overlooked. Is it not apparent that true restoration or reclamation will depend on a recognition of the general condition which has made these repeated local infections possible?

The second group of conditions is the cardiovascular group. It has been so universally the experience of men in military service that the individuals who have broken down in a cardiovascular way had had recognizable circulatory derangement before they entered on military life, that I believe the same will be found to apply to cardiac breakdowns occurring in industry. After some of the earlier experiences, army examiners became more alert to the sorts of conditions which predisposed to subsequent cardiasthenia, and their later experience showed that by more careful selection many of the circulatory breakdowns could be avoided. Among the relatively young persons selected for military service, hyperthyroidism, tachycardia due to purely neurotic causes and various forms of glandular diseases were, of course most important. In the case of industry, where older individuals must also be considered, the beginnings of arterial disease, vascular hypertension and beginning renal disease must also be considered as forming a group of great numerical magnitude. It is quite clear that if individuals suffering from beginning maladies of this kind are placed in industry without reference to their physical capacity prompt debilitation must be expected.

The third group is that of respiratory diseases, a group which will be found in greatest abundance in types of industry in which exposure to dust-laden atmosphere of necessity occurs. Experience with workers in potteries, cement works, coal mines, and the like, has shown that the susceptibility of individuals differs greatly, but there is no standard thus far by which the highly susceptible can be distinguished from the others. Introduction of methods to prevent dust and prompt removal from the industry of persons with preliminary symptoms alone can reduce the figures.

The tuberculosis problem is so closely interwoven with that of dust inhalation that I feel tempted to pause for a moment to discuss it, but only from the point of view of industry. So many factors enter into the predisposition to tuberculous infection, that it is easy to fall into error. Opinions vary as to the importance of dust inhalation as a mechanical cause of predisposition to subsequent tuberculous infection by injury to the lung tissue. Doubtless in many cases pneumoconiosis is mistaken for actual tuberculosis and the frequency of tuberculous infection has perhaps been overestimated. There is reason to believe that the proportion of cases terminating in tuberculosis varies with the type and kind of dust, the disease being more frequent among workers in flinty rock than in those in any other occupation.

Our recent experience with influenza leads me to indicate another direction in which errors in estimating the frequency of tuberculosis may be committed. I recall well the first great epidemic of this disease which broke out in the fall of 1889, when I was a hospital intern, and which had swept the continent of Europe before it reached this country. In all of its important features, the epidemic was precisely the same as that which has just passed over this country again. After the first epidemic there was an enormous increase in various types of pulmonary disease, bronchiectasis, unresolved pneumonia and pleural troubles. Many of these cases doubtless were regarded as tuberculosis. We are already beginning to see the same thing as the result of the recent epidemic, and I think it worth while sounding a note of warning that the diagnosis of tuberculosis of the lungs in the absence of tubercle bacillus should be made with greater caution now than before this epidemic occasioned so many forms of peculiar residual pulmonary troubles capable of confusing diagnosis.

The last group of conditions that I feel required to mention is that of the industrial intoxications, by which I refer to various forms of poisoning like lead and anilin poisoning. The rapid growth of various chemical industries has increased these enormously. The direct relation of these to the industries in question is so clear that the direction in which their remedy is to be found must be immediately apparent.

PRACTICAL MEASURES

In the practical prevention and subsequent relief of these groups of conditions, it is important first to institute certain general measures and then apply special treatment in the individual cases.

I have sufficiently indicated the importance of preliminary examination of individuals and their proper placement in industry, and the time has come when large plants will have to deal with physicial conditions of prospective workmen somewhat in the same way as the Army has done in the case of young men about to be inducted into the military service. The adoption of such a program will be of advantage to the individual and a great benefit to industry and the community as a whole. Every physical breakdown entails loss, first on the individual, then on the industry and eventually on the public. Prevention of disease means economic and physical conservation. I know from personal experience that the preliminary examinations in many large industrial establishments are exceedingly good, but it is quite certain that in some places examinations are perfunctory, and frequently, though the system has been properly devised, it has not been faithfully carried out.

REEXAMINATIONS

In many industries, particularly in those in which poison hazards are encountered, reexaminations from time to time are essential. These are occasionally made and should become more and more a definite part of the program of industrial hygiene. Eventually, I believe, they will serve the purpose of curtailing all classes of disease, including those due to mere overwork, fatigue and other intangible causes. The great importance of such reexaminations lies in the fact that they make it possible to discover all kinds of disease in the stages in which curative measures are still likely to be of benefit, and before complete physical breakdown has resulted. Along with the records of reexaminations, health cards indicating the occurrence of trivial ailments and the time lost from work will prove particularly valuable. A health card for every individual employed should be as carefully kept as the time card is kept in the business office of the plant. I concede that objections may be made on the score of the difficulty of carrying this out partly because it entails considerable clerical work and because it may be held impracticable to obtain prompt and dependable reports from outside physicians in cases where workmen are under the care of their family doctors. So far as the latter are concerned it is not after all essential to have records of the various ailments workmen may have had. The number of days absent from work on account of illness or on any account whatever, will serve in the long run to indicate the individual's capacity and physical status. We all know how insurance companies manage to place "mass insurance," depending on known figures for the probable occurrence of disease or physical defects and the expectancy of life in men of a certain age. In the same way, where time cards of the individual workmen are grouped together, a working formula might readily be obtained without any reference to the particular ailments that individual workmen experienced. So far as I know this method has not been put to practical use in a definite way, though undoubtedly it enters into the calculations of every employment office in determining the value of individuals.

RECORDS OF FIRST AID STATION

It is unnecessary to discuss here the usual work done at the First Aid Station, but I mention the matter merely to emphasize the importance of having complete physical records kept in the case of every individual applying for treatment for injury, as it is apparent that those workmen who are substandard are the ones most liable to injury. The fact that the man has been injured is reason for a general physical examination in addition to the necessary treatment for the injury sustained. At all events, the opportunity to make such a medical survey should not be lost sight of and the record should be preserved for future reference.

RECREATION

It is perhaps unnecessary to dwell on the hygienic value of recreation in the case of workmen. We know how extensively this has been dealt with by our army authorities with the soldiers in the camps or on foreign duty. In many large industrial plants the opportunity for proper recreation has not been left to chance, but is wisely guided by the corporation.

SPECIFIC METHODS OF TREATMENT

In connection with the direct treatment of the diseases falling within the groups I have mentioned, the most important thing seems to me to be the necessity of careful modern investigation. Minor ailments are but the beginnings of serious diseases and should always be looked on as signals for careful investigation. The later treatment of disease in the groups named should, as far as is possible, be institutional. Of course ideal facilities cannot always be obtained, but the larger industries can readily make arrangement with public institutions where patients can be thoroughly studied and can do a great deal in the way of encouragement of such institutional investigation. There need not be any interference with the work of the family physicians; on the contrary, every effort should be made towards cooperation.

The good results obtained in our army and in those of other countries by the method of group treatment need hardly be emphasized by me after Dr. McKenzie's splendid presentation of what has been accomplished. Following the same thought, would it not be well to encourage the separate management of nervously debilitated workmen and those suffering from cardiovascular or other forms of disease. In the treatment of circulatory disturbances, a great deal of time may be lost in the beginning, when the treatment is most satisfactory, because a complete and reliable diagnosis has not been made. Too much stress cannot be laid on the value of institutional study of such cases. In many instances the after treatment can be conducted elsewhere but for some, including the enormously frequent instances of circulatory asthenia, the advantage of hospitals with hydrotherapeutic departments and facilities for mechanical and other forms of exercise need not be emphasized in detail.

In the after care of both nervous and circulatory cases, convalescent homes furnish the best conditions for speedy and complete relief. Such convalescent homes and hospitals located in country districts are still more important in the case of some of the respiratory affections. In these, however, before the removal of the patient to an institution of this kind is recommended all the facilities for modern diagnosis, including roentgen-ray examinations of the thorax, should be insisted on. Early respiratory diseases are susceptible to great improvement or complete cure, while the later stages become more and more difficult of management.

Perhaps the importance which I lay on the need of institutional treatment may not altogether appeal to those who believe in the value of home surroundings and individual care of the sick. It has been far from my intention to detract from the advantages of such surroundings, though I need not answer in detail. The enormous strides made in recent years in the study of disease and in its proper diagnosis by the employment of special facilities in the way of instruments of precision, laboratory methods, roentgen-ray examinations, etc., have made it impossible to obtain the best results except in a fully equipped institution. It is not necessary that patients should be kept for long periods under such institutional care, but at least the preliminary studies should be conducted there, however or wherever the subsequent treatment is carried out. Industrial physicians will, I am sure, be prompt to recognize the importance of this and will, as far as they are able, persuade the corporations with which they are connected to provide the equipment necessary, or make arrangements with existing public institutions.

Dr. Patterson: We wish to thank Dr. Stengel for the ideas that he has put before us.

I am going to ask that you register at the desk as you go out, if you have not done so. The meeting stands adjourned until 2 o'clock this afternoon.

AFTERNOON SESSION

The meeting was called to order by the chairman, Dr. Francis D. Patterson, at 2:20 p. m.

Dr. Patterson: The meeting will kindly come to order. Will those in the rear of the hall please come forward and take seats?

Closely adjacent to the state of Pennsylvania is another commonwealth, which, smaller in size, yet is extremely large in the great number of important industries that it contains. I refer to the Commonwealth of New Jersey; and it is our great privilege this afternoon to have with us the commissioner of labor of that commonwealth who for more than fourteen years has presided over the destinies of labor in the state of New Jersey. I take pleasure in presenting Col. Lewis T. Bryant.

INDUSTRIAL INJURIES IN NEW JERSEY

COL. LEWIS T. BRYANT
Commissioner of Labor of New Jersey
TRENTON, N. J.

I notice that I have had no particular subject assigned to me. I suppose it is something like when I introduce my friend, Dr. Patterson, I do not assign him any subject, because it makes no difference what subject is given him, he makes the same speech anyway.

I see you have a comprehensive program, covering all of this problem, which, I presume, is uppermost in the hearts of all of our red-blooded American citizens at this time. There is a very general desire on the part of all the agencies of our society to help the returning soldiers, particularly the wounded, and see that they are rehabilitated and get the best possible occupations. I have made some studies of this situation, and the one criticism that I might make is the fact that the administration is placed in three separate and distinct hands: The Surgeon-General's Department, the Bureau of War Risk Insurance, and the Federal Board for Vocational Education. What I am afraid of in the various commonwealths, and I speak particularly of New Jersey, is that there will be some duplication of effort; that so many will be anxious to help the men that the work will be scattered and that they will not get the same degree of help that they would get if the work were more concentrated and under more direct control. I think the agencies in the various states should be used to the fullest extent.

I was particularly impressed with the fact in New Jersey, where we have seventeen branch employment offices, that men have applied who were materially injured and had no knowledge of what they were entitled to from the government as to compensation, as to rehabilitation and as to vocational guidance. How many there are scattered around the country already, away from the directing protection of the government, I do not know; but it reflects on us if any of these men are permitted to take up their work under a handicap, without having vocational guidance and assistance as contemplated by the Federal Act.

I learned last night, at a dinner that I attended, of a society in my own home town for the help of the wounded soldiers; a wide variety of organizations have been asked to help, but we have endeavored to encourage in our state application at one central place. We have also tried to build up a workmen's industrial center, where the needs of the large industries of the state can be met. We will have one building where all the branches of the Department of Labor are represented. We are trying to have in each of these units a handicapped clerk, a man who is instructed along the lines of obtaining the best placement for injured workmen; and we should try to gain, from the information obtained and the experience gained, a knowledge which should make us better calculated to look after the industrial worker.

Although the soldier who receives injury while defending the flag and making our lives more pleasant is entitled to particular consideration, yet, so far as economic loss is concerned, the industrial worker is as much entitled to help as the soldier. After the soldiers are instructed and given the best possible help, the experience gained should be used for the help of the industrial workers; because, in the last analysis, there are probably as many injuries arising in industry in one year as we shall have from this entire war. From our experience in New Jersey, I feel sure that our injured in one year of industry will be as high as our proportion of the number injured in this last war.

I do not want to take more time, but I wish to thank you for the opportunity of saying these few words.

Dr. Patterson: I am sure that it is a great privilege and pleasure to have had Colonel Bryant with us and to have heard these timely words.

We are required, while waiting for some motion pictures to make some slight changes in the program; and it would be well at this time to understand just what the national rehabilitation plan consists in. The act of Congress known as "The Smith-Sears Rehabilitation Act" provides for the rehabilitation and return to civilian employment of persons discharged from the naval and military forces of the United States, and all the rehabilitation is by this act placed under the Federal Board of Vocational Education. The act says what pay the man shall have while in training, and provides means to pay for lodging and other expenses so as to make the vocational training available to every returned soldier or sailor at no cost to the man. Finally, the act provides that all surgical treatment prior to discharge from the army shall be under the control of the War Department. Thus, after the man has been functionally restored by the surgeons of the army and navy, he is then turned over to the board of vocational education, for such training as may be necessary in order to place him back in his proper place in industry.

Unfortunately, Mr. T. B. Kidner, Vocational Secretary, Invalided Soldiers' Commission of Canada, now on duty with the Federal Board for Vocational Education, at Washington, D. C., who had planned to be here, is unable to be present; but we are fortunate in having his place taken by Mr. H. L. Brunson, who comes to us from Washington and will tell us of the placement in industry of those disabled soldiers and sailors from the other side.

THE WORK OF THE FEDERAL BOARD FOR VOCATIONAL EDUCATION

MR. H. L. BRUNSON
Superintendent of Placement, Division of Rehabilitation,
Federal Board for Vocational Education
WASHINGTON, D. C.

Your chairman said to you that he would have to make some change in this part of the program. Well, I think it quite likely that you will realize before I am through that he has made a considerable change. I regret that Mr. Kidner could not fill this appointment, because I am quite sure that it will not be filled. However, as we are living in an age in which we have been compelled to accept much substitution, I shall proceed on the theory that you are ready to tolerate a substitute and will be lenient with me as such.

The work of the Federal Board for Vocational Education under the law which the chairman has just spoken of, the Smith-Sears Law, is to fit the soldiers and sailors who have been injured in line of duty, either by wounds or disease, for civilian occupations.

This board was created by the Smith-Hughes Law, which provides for vocational education to be carried on in the various states assisted by funds of the federal government on a fifty-fifty basis. The Smith-Sears Law, signed by the President on June 27, 1918, added a new duty to the work of the federal board, which required the building of quite a large organization covering the country with district offices, to care for these added responsibilities.

When you consider that the machinery necessary to carry on the work must be used while it is being set up, as many disabled men were awaiting assistance, I think that you can appreciate the size and character of the problem confronting the federal board.

The first step in this program of rehabilitation is to get in touch with the disabled man. The plan is to get in touch with him at the hospital, just as soon as possible in view of his physical condition, and advise with him concerning his future; to find out what his experience has been, what education he has received and guide him into an occupation in which the equipment which has been spared to him can best be used. This is a big task, choosing the occupation for the man, because, in the first place, peculiar to the American type of manhood, the man usually has a very definite idea about what he should do, and in many of such cases it will be difficult to convince him that his judgment is wrong. In most of these cases I think that it will be necessary to place the man in some position and try him out on the job in order to determine whether he can "carry on" in that line of work. Development will prove whether he can or cannot. If unable to make good, then he is a subject for training. I make reference to this point to show you the character of the problem confronting the federal board. You will have a speaker talk to you later, on the employment of disabled men in general. I do not care to infringe on that assigned subject, but desire to lay emphasis on the fact that it will be necessary in many cases to place a disabled man in employment as a test to determine whether he will require training. It is often a matter which cannot be determined otherwise than through such tests.

It is planned by the federal board to provide training for these men in every occupation known to be suitable. This phase of the work cannot be carried on to any great extent in schools. It will be carried on in factories, mills, shops and offices, and everywhere that men can be trained, or tried out in employment, to prove whether they can, with their remaining epuipment, do the things that they must be able to do in order to carry on the job. This requires the assistance of the employer, and the sympathy of fellow workmen. In fact the aid of every factor in society is needed to carry out the work successfully.

After a man has been trained, or placed in employment as a test of whether he can "carry on" in that particular line, he is to be followed up. He will be interviewed frequently. His employer is requested or those who are directing the training, as the case may be, will be required to provide the federal board with information from time to time, so the board may know how the man is getting on. If he requires shifting or direction into some other line, the officers of the board will know of it and will change his training, or secure for him other employment.

I do not believe that any one will question that this is a national responsibility. The Federal Congress has wisely decided that there should be one organization to carry on this work throughout the entire country. There are some who have not been made familiar with the provisions which the federal government has made for their futures. They were not seen by our vocational advisers before they were discharged from the hospitals. I think, however, that we can congratulate ourselves that more difficulty has not been encountered in carrying on this big task. This nation has performed a feat unparalleled in the history of the world, in putting into action the big force of men that were sent across the water. We will perform with equal ease the great work now at hand. I do not think it necessary to call further attention to these activities of the federal board for we all appreciate the necessity of doing the best possible for the war injured, but I want to mention that the Federal Congress is considering a similar plan for the reclamation of men from the industrial scrap heap, as has been provided in the Rehabilitation Act for the soldiers and sailors. We hope that the plan will be successful.

The bill, as most of you probably know, is along the same lines as the Smith-Hughes Law. It provides for the work to be carried on by the state, assisted by the Federal Board for Vocational Education as the agent of the federal government.

When it is remembered that there are daily at least 650 industrial accidents in the state I do not think the people of Pennsylvania need to be reminded of the necessity for work of this kind.

I wish to thank you, Mr. Chairman, for the opportunity to come before this assembly and make this brief statement concerning the work of the federal board, and again regretting that Mr. Kidner could not be here to address you, as your program calls for, I ask your cooperation with the federal board in its present great work, the rehabilitation of the disabled soldiers and sailors.

Dr. Patterson: Can you tell us something about the Bankhead Bill before you stop, Mr. Brunson?

Mr. Brunson: The Smith-Bankhead Bill provides for the training or retraining and replacing in suitable employment of men who are injured or maimed in industry. It provides that funds will be advanced from the federal treasury to the states, dollar for dollar with the money that they will put up for the same purpose. The work is to be under the supervision of the Federal Board for Vocational Education and a separate fund is provided for this purpose.

These are the fundamental provisions of the bill. I have not made a careful study of its details; my time is devoted to lining up the country for the employment of disabled soldiers and sailors and I feel that to do well the shoemaker must stick to his last.

Dr. Patterson: Before we adjourn this afternoon, the chair hopes that we may have a free discussion of this whole subject, particularly of this Bankhead Bill, which is of great importance to every state. We are indebted to Mr. Brunson, who came here on short notice to give us this illustration of the activities of the federal government in this respect.

In my opening remarks this morning, I spoke of the scrap heap of industry, whose size keeps on mounting, day after day, and year after year. It is our privilege this afternoon to hear how this may be lessened, not only in size, but in numbers; and I take pleasure in introducing Col. Harry Mock, president of the American Association of Industrial Physicians and Surgeons, who is now in the Medical Corps, United States Army, and who will speak on the subject of the "Reclamation of the Disabled."

RECLAMATION OF THE DISABLED

HARRY E. MOCK, M.D.
Lieutenant-Colonel, M. C., U. S. Army
WASHINGTON, D. C.

The problem of the disabled in the army is being solved, and we can now turn our thoughts to the problem of the disabled in industry. I think you all know the meaning of the terms that have come into existence since this war, physical reconstruction, industrial rehabilitation, functional reeducation, mechanotherapy, vocational education, etc. Many of us never heard of these before this war. They are either new terms or have gained new meaning during this present struggle.

Our country is pledged to reconstruct and rehabilitate every disabled soldier. When that pledge was made, we thought that we should have hundreds of thousands. The problem is not nearly so large as we expected. Colonel Doane just asked how many we expected. It is impossible to answer that question yet, but we do not expect more than 75,000 that will still require hospital treatment after they return from "over there"; and we do not expect that more than 50,000 will really need what we call physical reconstruction, or more than 10,000 that will need vocational rehabilitation. The problem is not so large as we once thought it would be.

I am going to show you some pictures, later on, to give you some idea of what the government is doing for those that have been disabled; because a great many are being reconstructed. The best thing about our plans for the reconstruction and rehabilitation of disabled soldiers is the publicity these efforts have received. Before the war the country was hardly aware of the disabled in industry. The civilian disabled we have always had, but now everyone is talking of him as if he were a new man. It is amusing at times and yet encouraging to hear people discourse and advance theories about the reclaiming of the civilian disabled as though it was an entirely new field of endeavor. How many surgeons in the room are doing industrial work? Please hold up your hands. There are a great many. You men have been doing a practical piece of physical reconstruction that is now playing a part in influencing the country to extend these ideals to all civilian disabled.

I will just give you two examples of what we are doing for the physical reconstruction of disabled soldiers. Tuberculosis is one of the conditions treated. A great many tuberculous soldiers have been discharged. These were chiefly those who were dismissed prior to the adoption of the policy that no man was to be discharged until cured, or his maximum restoration obtained. It took months and months before the final adoption of this rule. Since then these men have been held, and a great many tuberculous are now receiving treatment and training. Approximately 6,000 tuberculous soldiers in these sanatoria are undergoing physical reconstruction today; with that they are getting work, play, entertainments and prevocational training. Wherever practicable, the work is given a practical trend toward their future employment. It is a real system of vocational rehabilitation, going hand in hand with the physical cure of these men. Close cooperation now exists between the Federal Board of Vocational Education and this work in the hospitals.

It would interest you to see these tuberculous soldiers. Go to some of the civilian sanatoria or old type army sanatoria, and see the patients lying around and becoming hospitalized; and then go to these reconstruction sanatoria and see men, apparently healthy, but having the invisible wounds as Captain Samuels so often called them. They are apparently healthy, but have tuberculosis. When finally discharged they will go back full of pep and morale, instead of having to gain these after they leave the sanatoria, as is so often the case with tuberculous patients.

The second example of physical reconstruction of disabled soldiers is that found in the Roland Park Reconstruction Hospital for the Blind at Baltimore. Before this hospital was started there were some twelve occupations in which blind people engaged, such as broom making, piano tuning, etc. With the plan for the physical reconstruction and industrial reeducation of the blind the Surgeon-General's Office put industrial engineers in the field, under the direction of Lieut.-Col. James Bordley, a man to whom the industries of this country are going to owe a great debt. He has sent these industrial engineers out to survey the situation and see how many jobs were possible for the trained blind; and already they have found 408 different types of occupation that the blind can carry on as well as the man with his eyes. Here at Roland Park they are training our blinded soldiers for their jobs. No greater reclamation work has ever been attempted in our time.

I will now turn this problem to the disabled in industry. Many industries have comprehensive systems of medicine and surgery. The work which they are doing, as I said before, is the most practical form of physical reconstruction imaginable. It has not been known by that term, but that is exactly what it is. We can call it conservation and reclamation work in industry or industrial medicine and sanitation, or welfare work, but no matter by what term you designate it, it is the most practical form of reconstruction yet conceived, surpassing even many of the plans for the reclamation of disabled soldiers, because it has been worked out by men in the field. Whatever expressions are used to describe this work, the desired results can only be obtained by a completely rounded out plan, such as now exists in certain industries.

There is a bill at present before Congress providing for the vocational rehabilitation of the disabled from industry. It is characteristic of the many bills that are presented not only in Congress but before our state legislatures that they meet only a portion of the problem which they are supposed to solve. This vocational rehabilitation bill, known as the Smith-Bankhead Bill lacks a vision of the size of the problem presented by the civilian disabled, makes no provision for the hundred of thousands of cripples carried from our streets every year, or of the thousands disabled from disease that fill our county institutions today. The industries themselves are beginning to take back and retrain many of the industrial cripples, but the unfortunates for whom no industry is responsible are still neglected.

Mr. Riddle, of the Department of Labor and Industry of Pennsylvania, has prepared an excellent résumé of the disabled problem. It is a most excellent piece of propaganda on this subject.

As already stated, a few industries salvage these disabled and make them efficient and independent. Some industries give these employees easy jobs where they can make a living. But the very softness of the job robs them of all incentive, and the bitterness engendered from dying ambition adds to their incompetency, so that many of these drift on into the scrap heap. Other concerns settle with their injured workmen when they are legally responsible and then dismiss them. Their disabled, for whom they are morally responsible, are scrapped without a settlement. These men, trained for certain occupations, who meet with permanent handicaps, are the waste products of our industrial life. Too often, when employed, they are ineffective, because they are thrown into the job without considering their physical fitness for it. Again, they are given the positions of watchman, flagman, messenger, porter, and similar work when, with proper training, their full mental energy and remaining physical capacities could make them highly efficient in much more gainful vocations.

If the casualty list from industry could be printed every day in our newspapers the people of this country would be appalled at its size. In one year from accidents alone it is over eight times as large as the entire casualties among our troops on the battle fields in Europe. We have no records to show the number who are killed or disabled as the result of the occupational diseases and diseases partially traceable to working conditions, but these undoubtedly are even more shocking.

The following figures furnished by the Bureau of Statistics, Department of Labor, are very instructive in this connection:

Estimated number of persons, 10 years of age or over, gainfully employed in the United States as of April 15, 1917......	44,543,208
Male	34,537,974
Female	10,005,234

(Includes employees, employers, farmers and independent workers.)

Estimated number of industrial accidents in the United States in 1917................	903,000
Fatal	28,000
Nonfatal, causing disability of over four weeks	875,000

Of the 875,000 nonfatal accidents 74,530 would result in amputation or loss of use of some member, distributed as follows:

Loss of one eye or reduction of vision to 9/10	5,700
Loss of one hand or arm..................	2,880
Loss of one foot or leg..................	1,220
Loss of one finger or part of finger......	52,050
Loss of two or more fingers..............	9,100
All other specific injuries (including multiple)	3,580
Total	74,530

Dudley Holman estimates 250,000 employees annually thrown out of industry by disease and accident.

These figures do not include the great number of accident cases occurring on our streets, such as automobile accidents. These victims, often very poor, are carried into our hospitals, suffer the loss of a leg or an arm, and are turned out surgically cured to fend for themselves. Many of these are far from economically cured and make up a large percentage of the dependents in every community.

Two years ago a survey of all the crippled individuals in Cleveland, Ohio, was made, the total number found being 4,815. Of this number 49 per cent. were under the age of 15 at the time of occurrence of the disability, while 43 per cent. were between the ages of 15 and 59 years, or during the period of working life. Of this latter group, 40 per cent. were due to accident. A similar survey in every community throughout the land would undoubtedly reveal the fact that industrial accidents stand second as the cause of cripples.

Interwoven with and contributing to the wastage of human life and human energy on the part of industry and of society is the inadequate medical care so often afforded these victims of accident. They are admitted to our wards in the hospitals and the intermediate treatment or operation is performed properly and well. This is followed by the daily dressing. For the remainder of the day, for weeks and weeks to come, the patient is left to his own devices. Lying there in idleness, with worry and melancholy his chief companions, is it any wonder that traumatic neuroses develop? Satisfied with a good surgical end result, as usually interpreted, very little thought is given to the man's future economic usefulness. As a consequence, efforts to restore function in the disabled member receive only secondary consideration. And when the patient must finally leave the hospital to make room for other unfortunates, neither the surgeon nor the insurance company nor the responsible employer strives to place him in a position where the best economic end results can be attained.

The accident cases, the armless, the legless, and the blind, make up the spectacular group of those needing reconstruction. But those employees suffering from "invisible wounds," the tuberculous, the heart case, the nephritic, the mental defective, and the victims of occupational diseases, demand the same care.

The problem of the disabled from industry can be solved, however, only by considering every angle of human conservation and reclamation.

Every year has witnessed the enactment of laws by the different states tending to meet some portion of this problem. But these laws show a woeful lack of intelligent understanding of the exigency and are very inadequate. Proof of this statement has just been furnished in the pages dealing with the size of this problem as it confronts us today after several years of legislative effort.

The first real advance in labor legislation in this country was the enactment of certain laws regarding industrial sanitation and the establishment of state factory inspectors in practically every state. These have been followed by acts concerning hours of labor, employment of women and children, periodical examinations for occupational diseases and, in thirty-eight states, employees, compensation acts. The federal government has passed similar laws for the government employees. At present there is a bill before Congress for the vocational rehabilitation of industrial cripples. The trouble with all this legislation and the reason that it has not been more successful is this piecemeal method of meeting the requirements.

Certainly the time is ripe for uniform legislation, which will adequately solve the problem of conserving human life, reclaiming the disabled, sufficient compensation for disabilities sustained, insurance against sickness, old age and unemployment, and better living and working conditions.

Instead of Congress enacting another law applying to only a small angle of this great question, it would be much wiser for it to appoint a commission, and provide sufficient funds, in order that the whole situation could be studied and a standard law submitted to the federal and state governments which would furnish a comprehensive solution of the whole problem.

Laws requiring compensation for injuries without providing for accident prevention have proven how wasteful partial legislation to meet a given situation can be. Therefore, remedial legislation for the purpose of removing or correcting all things which prevent the complete fulfillment of the proposed law is essential. No longer should inadequate medical and surgical care be tolerated or protected by the unwritten laws of the profession generally included under the term medical ethics. Hospitals notorious for their lack of high standards and responsible for many a case of permanent disability must be abolished. Patent medicines, fake appliances, and quackery of every form, acting as a snare and delusion for millions of employees, must be eradicated. Child labor and every other form of exploitation of labor must cease. Above all, such a law must be absolutely just, based on the rights of both industry and labor, and tending to weld into a close partnership those who employ and those who must work. The new viewpoints gained from the sacrifices of this war must lead our country into a true social democracy with equal rights for all.

Dr. Patterson: I am sure we all owe a debt to Colonel Mock for this splendid vision he has given or this new work that stares industry in the face, and of the problem which industry must solve.

I received a wire stating that Mr. McMurtrie will be delayed, but will be here. Before he comes to talk to you on the subject of "Returning the Disabled to Economic Independence," I am going to put before you for discussion the subject of the morning addresses. It seems to me that if ever there was a meeting where we wanted to get the point of view of everyone present, this is it. We want the experience of everyone on every important phase of this problem. We must know what those who are employers of industry have to say, and I am going to call on Mr. John C. Rose of the Pennsylvania Railroad Company to open the discussion.

DISCUSSION

John C. Rose, Esquire, Chief Claim Agent, Pennsylvania Railroad Company, Philadelphia: From one or two notes made for my personal use from the addresses of this morning, I am most impressed with the fact that nothing has thus far been accomplished along the lines of reconstruction, possibly because there has been lacking legislative powers, our legislature meeting not every year, as in most states, but only every two years.

The time for putting into effect a remedy for a situation such as you are dealing with here is when the matter is before the people in its most intense phase and not after all enthusiasm has waned, which occurs when a legislative remedy is two years away. That this is the condition through which we have been passing Dr. Patterson will bear me out.

One of the points that appeared to me as of much importance was the suggestion of Dr. Stengel concerning the necessity for more efficient surgical and medical attention to accident cases in the first instance, entailing a thorough questioning of the man for the purpose of ascertaining whether there could be any explanation, latent or obscure.

Another matter that appeared to me important was that the treatment of an injured person should continue with the same care that was indulged in, in the original examination and dressing, so that the patient should be restored to normal activity at the earliest possible time.

In conclusion, I will refer just briefly to a recommendation which I had the privilege of making a short time ago before the New York and New England Association of Surgeons, which is that all major surgical operations should be performed by persons qualified by the state medical association or an institute of surgeons; and all such service should be performed on a schedule of stated fees to be paid from a state fund, raised by general taxation—I am referring to the great mass of free or nonpaying or but partially paying cases; that no operation of major character, as defined by such institute of surgeons, be performed except under the immediate supervision and direction of the highest type surgeon.

This would insure to the indigent the same professional skill as the more favored are able to obtain and would relieve all surgeons from the burden of gratuitous service which is so great at the present time.

In the event that a person gets into court without the means of employing a legal adviser, an attorney is appointed by the court to insure justice being done in his or her cause; and although lawyers perform much gratuitous service, it is not at the loss or sacrifice that free work imposes on surgeons; and it manifestly is unfair that they should be expected to continue the practice.

I take the liberty of leaving this suggestion with you also in the hope that the idea may be taken up and vigorously prosecuted in anticipation of its enactment into law in other states.

Dr. Patterson: I am glad to note that Mr. McMurtrie has arrived, and we will have the pleasure of hearing from him. He is the director of the Red Cross Institute for Crippled and Disabled Men, and will speak to us on the very vital subject of "Returning the Disabled to Economic Independence." We have heard from Mr. Mackey in his address on the "Responsibility of the State," something about the work of the Red Cross Institute in New York City; and I myself have had an opportunity of knowing of the marvelous work that Mr. McMurtrie is conducting there. So we are now gratified to have him tell us of it at first hand.

RETURNING THE DISABLED TO ECONOMIC INDEPENDENCE

SOME SUGGESTIONS AS TO FUTURE POLICY

MR. DOUGLAS C. McMURTRIE
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NEW YORK

In one way compensation legislation has failed to meet the needs of the disabled. In the light of our present knowledge and experience, compensation practice, taken alone, has fallen short of success. The legislation has not been, in its results, in any way constructive. It extends to the man a meagre stipend on which he may or may not be able to live, and leaves him to exist in idleness. In fact, present provisions of law are almost an incentive to idleness in that a man's compensation award is prejudiced the moment his economic condition begins to improve.

Two days ago I was at Syracuse, attending the New York State Safety Congress, and there was some discussion about the rehabilitation of industrial cripples. We have had enough experience with the disabled soldier to realize that the only plan worth while is to restore him to economic independence, to place him beyond need of the monetary aid of compensation and pension laws, and thus solve his problem permanently and satisfactorily. There was some discussion as to who should pay the cost, the man, his family, the state government or the federal government, on whether it was worth while to appropriate a great deal more money for the benefit of the "poor industrial cripple" and give him a chance. I ventured to state that no one need pay the cost, and that all that was needed was to make a little transfer of bookkeeping.

To illustrate, I will tell you of an individual case which, to my mind, is epoch-making in that it marks a new departure in dealing with compensation cases. In Massachusetts, a year ago, a man working in a shipyard, fell inside a submarine that he was fitting, and so injured his hand that it put him out of his job. He was not a highly paid employee. The insurance company settled down to pay him $10 a week for the next 400 weeks, and wrote him off the books as a probable $4,000 loss. After a while, an enlightened official of the company, looking over the case, said, "Cannot we clean some of these cases off the books and improve their status and as well our own?" He took up the case mentioned and corresponded regarding it with the Red Cross Institute. We suggested that the man be sent to New York for us to train in the endeavor to make him self-supporting. They said to him, "You realize that our interests are involved as well as yours," and sent him to be trained in oxyacetylene cutting and welding. This does not take long to learn and, eight or nine weeks later, the man had graduated from his course. While he was in training, the insurance company paid him $20 a week as wages, and also paid his wife $20 a week to maintain her at home. When they sent him to New York, they gave him $25 as traveling expenses for a journey which cost only about $8, and they gave him $25 more to come back on. He enjoyed his course, returned, and secured employment. He is now making twice as much money as before the accident. The insurance company had gone to an expense of less than $500, and were able to write the case off their books with a cash saving of $3,000. Five hundred dollars had been paid the man in compensation prior to his entrance on the course of training. Had the reeducation been begun earlier this amount also would have been saved.

The insurance companies have reserves set aside to pay out in disability cases, and this one had expected to pay $4,000. The man, however, while he did not get the balance of his compensation reserve, was inestimably the gainer. Instead of remaining idle, he was able to become a useful workingman again, happy and contented. Instead of continuing to receive a stipend which necessitated a reduction in his standard of living, he is getting a wage on which he can comfortably live and educate his children. The insurance company and indirectly the employers who pay the premium are also gainers to the extent of the cash saving. I need not say how much the community is a gainer, because the man is now transferred from the unproductive to the productive column and will be in the future a self-respecting member of the community.

The transformation cost nothing. The case illustrates a new method which I hope we can pass on to the insurance companies. It is not a measure of philanthropy, but one of clear, cold, business judgment. For industrial rehabilitation, no one needs to pay the cost.

There are a few other little points that I think well worth consideration. There are a great many ways by which insurance companies and state funds can save themselves money. One is by the provision of unlimited and high-grade medical attention. There was told me the other day the case of a man with a broken leg. Under ordinary circumstances, he would have been back at work in a short time; but in this instance he was not. The reason was that the insurance carrier provided the two weeks of medical treatment which they were required by law to give. After that he had bad treatment, with the result that there was nonunion of the fracture. A year afterwards, he was not yet back at work. This was not good business. Compensation for a considerable period would have been saved by adequate and good medical care.

Under the compensation system there has been no inducement to men to seek rehabilitation. I do not know as I blame them for not making the effort, because with the least improvement in earning capacity, the compensation payments are reduced. At the Red Cross Institute we have found that the day a compensation case comes to us for training is the very day on which compensation expires.

The man has usually been long in idleness, remaining unemployed as long as the compensation came in, and has been urged by his friends and family not to do anything for his living during that period. But when the source of support is cut off, he comes to us for training.

I need hardly point out that this is the worst time to take him for training. He has developed pernicious habits of idleness, and it is hard indeed to break these habits.

The chief expense of training men is not putting them in classes and having them taught; it is maintaining them while in training. No matter how excellent your mechanism of reeducation may be, if you go to a man earning $6 a week and say, "This is too low; you should be earning at least $20 weekly; come to our school, and we will train you for a job," it is out of the question for him to undertake training because, in the meantime, he and his family would starve. He must, from day to day, earn every penny he can in order to keep breath in his body. So we face the necessity of maintenance. During compensation a man would have some income on which to live but after that period has expired maintenance becomes a serious problem, and we have to supply money to support the man while he is undergoing training.

We may find some suggestion of what should be the changes in compensation laws from the pension rules relating to disabled soldiers. It has been found in experience that no one would think of taking reeducation until it was stated that whatever pension had been awarded would not be reduced because of increase in earning power. Great Britain had great trouble during the early years of the war because the pension accorded to men was taken away when they began to earn. They found they were putting a premium on idleness and loafing, and the ruling had to be changed. In Canada, they did better, by providing particularly that the pension should not be reduced by return to self-support. In France, it is the same way. There they have hardly been able to convince the men that what they received would not be decreased by reason of increase in wages.

It is not meant that there should be paid, regardless of earning power, all the compensation now paid in the assumption that the injured man will remain unemployed. A plan of paying a certain minimum weekly award for the personal inconvenience involved as result of a given disability, not to be reduced under any circumstances, is, however, worthy of serious consideration. There would then be offered further compensatory advantage in the provision of thorough reeducation and, in case a man made an earnest attempt at rehabilitation, and failed, there would be further award in the discretion of the state compensation authority making the total benefit at least as great as, and preferably greater than, the disability payments under present practice.

Such a plan would offer incentive to a man to get back on the job, in that he would receive in addition to his wages the amount of the minimum compensation. This is but one suggestion.

I do not know that I as a layman have much license to speak of the relation of the industrial surgeon to the problem of disability. I should not venture to do so, except as regards vocational and educational aspects. I wonder whether we do not run into absurdities in the employment standards set up by certain industrial or commercial concerns, in much the same way as certain civil service authorities rule that no one with a leg amputation can come before them for examination, not only for the position of a postman, but for that of a clerk, who sits at a desk all day. I think that we should consider very carefully the relation of physical requirements to the job involved, and see that in demanding absolute physical perfection we do not throw out people who can amply well fill the positions for which they are candidates.

A story almost humorous was told me by our librarian, a very efficient little lady who presides over the library at the Red Cross Institute. She is a stocky, well-built person, very active, but short. A little while ago, she applied for employment at one of the leading banks in New York City, and the chief librarian accepted her. After she had been accepted vocationally, she was told that, as the last formality, she was to see the surgeon of the bank and be passed on medically. As she had not been sick for years she faced this examination with considerable confidence. Just before she was to report for work, however, she received word not to come, on account of physical unfitness. She naturally wondered whether there was anything organic the matter with her and whether she needed medical attention. She went, therefore, to the bank and asked about the cause of rejection. She said, "I have a right to learn the truth. Let me know what is the trouble so that I can arrange to have any necessary treatment." After fighting several days for this information, she found that she had been rejected because of being "undersize and underweight"—perhaps because the index cards were too heavy for her to carry.

I do not know how typical that is. It may not be typical at all, but it represents a tendency pregnant with possibilities of difficulty in the placement of disabled men in jobs for which they are fitted. There is considerable discussion of the extra accident hazard in the case of men already disabled. There may be such added hazard in the employment of disabled persons placed at random, but I believe that such men when wisely placed involve no greater risk than the able-bodied. Further, a man who has once been injured will take some care not to have a second accident.

The other influence with which we have to deal is the general attitude of the employer towards disability. He has always regarded the disabled man as a hopeless case, and is not willing to believe that such a man could do anything useful. The first necessity in operating an employment bureau for disabled people is to get at the employer and convince him that men who are disqualified for some jobs are not shut out from others, and make him willing to take the crippled into service.

One of the most useful mechanisms to bring employers to recognize the possibilities of crippled workers, is known as the "industrial survey to discover openings in industry for the physically handicapped." Over a year ago informal survey work of this character was undertaken by the Red Cross Institute to provide working data for its employment department. There were made preliminary surveys of forty or fifty trades. Field workers classified the processes in each industry as to whether they were possible to arm cripples, leg cripples, etc., and also made record of the operative requirements. The Red Cross Institute for the Blind is carrying on survey work according to a slightly different plan. For each process in an industry it is noted what positive faculties it requires, i. e., one arm, two arms, or no arms; one leg, two legs, or no legs; eyesight, hearing, whether it is unfavorable for men with lung diseases, etc. Other survey work is being done by different agencies.

The survey findings do not give final results, but they are extremely suggestive, and furnish many good leads for the effort to place disabled men back in productive work. When the theoretical conclusions have been checked by actual experience in training men and sending them out to the jobs in question, we shall then have a fine body of data on which to depend.

In our employment bureau we have a card catalogue record of the relation of disability to job, classified by trades. The most significant data on any type of job, however, are not comprised in the statements of observers or employers but in the records of performance of cripples who have actually worked in such a position. When, for example, we find that nine arm cripples have made good in a given type of job, we have considerable confidence in sending out the tenth to such a position.

The general attitude of the public towards the disabled man is far from helpful. There is a great tendency toward demoralization, particularly if there is any delay in getting the men back into industry. The railway surgeon of a great western road told me several years ago that if he took charge of an accident cripple the day he came out of the hospital he would make a success out of him; if he failed to get in touch with him until three weeks later he made a failure. In so short a time would the influence of the public have proved effective. Whenever the disabled man touches the community without some kind of control he becomes demoralized and indolent, loses his ambition, and develops the conviction that the world owes him a living without necessity for effort on his part.

The exploitation of returned disabled soldiers by the Liberty Loan committees cannot meet with other than condemnation. Hundreds of the men have been taught that disability properly exploited is a financial asset. It is against just this discovery that those interested in the rehabilitation of the disabled wish most jealously to guard.

A Canadian soldier with both arms amputated came to our employment bureau some months ago, and said that he wanted a job. As future plans are built on past experience, we inquired what he had done before he went to the front. He told us that he had been a window cleaning contractor. We said, "That will be fine. When we fix you up with modern artificial arms you can go back to that work. You have no problem to solve." He replied, "I am not interested in window cleaning now. I want more excitement. I have been working for the Liberty Loan, and what I want now is a propaganda job." We know that he has a long way to fall before he comes up with a bump. Then he will have a long, hard course ahead of him before he is again interested in work, willing to do it, and anxious to stand on his feet.

Another man came to us, and we talked of training him for a trade. He began to appear restless, looked at his watch and finally said, "I must be going. There is a motor car downstairs waiting to take me to speak at a meeting." Such speaking was almost a continuous performance. You see this and similar things in every community, the willingness on the part of the men to attend pink teas and be entertained, and the general indisposition on the part of the public thoughtfully to perform its real duty to the disabled.

You have probably heard again and again that the problem of the industrial cripple is of much greater magnitude than that of the war cripple. It is my hope that the experience gained in the work with disabled soldiers may be carried over into the period of peace to the benefit of the physically handicapped civilian. We must learn now that the sound attitude toward the disabled man is far removed from the process of almsgiving to the pauper.

Dr. Patterson: Now, ladies and gentlemen, we have completed our formal program, but have by no means completed the discussion of the important subjects that you have heard presented today. The war is over, but the tragedies of peace are going on, and it seems to me that everyone in this room should have something to say on the topics presented. We invite the freest discussion; we want your point of view on the Bankhead Bill now before Congress. Let us look the facts squarely in the face. I invite the fullest possible discussion, and shall be glad to hear from any one on the subject presented here today.

In speaking, please come to the platform and give your name to the stenographer, and do not be afraid to talk out. Dr. Baldy, we should like to hear from you as to what constitutes the legal means of practice of medicine in Pennsylvania.

DISCUSSION

Dr. J. M. Baldy, President, Bureau of Medical Education and Licensure, Philadelphia: As a matter of fact, I am very glad of the opportunity to appear before this body and have a word to say to you. It is evident, as has been well shown by Mr. Rose and Mr. McMurtrie, that it is essential to have properly educated doctors and the proper type of men to do your work, if you are going to get results. The medical profession know that fully, and it was with astonishment that I heard a proposition put before you this morning that we scrap licensure. This was applied to Pennsylvania; but, of course, the principle goes to every state in the Union, and spreads from there to every country in the world. This is a notable example of one man putting his opinion against that of all mankind, the German Kaiser did that and you all know what happened to him. I have no doubt that the same thing would happen to a man who at this day talks of scrapping that which the whole civilized world has been building up for a generation or more.

We all heard, this morning, from the same gentleman from Pittsburgh, a representative of the Westinghouse Electric and Manufacturing Company, the beautiful story of the ladder and the doctor coming back for more chalk for the purpose of writing his sins on the rungs. I would advise that, in offering criticism of your fellow practitioners in civil life, you be careful to view your own side of the question and see whether you, as industrial surgeons in control of industrial institutions, do or do not sin equally as they sin.

Of course, we are all agreed that some medical men in civil practice have been asking too much for their services and have taken advantage of the limits allowed by the law; but is not that the type of men who would come in by nonlicensure? And is it not the result of a low grade of medical education and bringing blackguards into the profession, instead of gentlemen? Certainly; and this is what we are asked to return to. We are asked to go back, to the old way of producing this type of men; because, during the recent war and the recent epidemic, the Westinghouse Company has had difficulty in filling the ranks of its assistant physicians. Well, the whole world has had the same trouble, and are the industries going to whine, as the Germans are whining today, and lose the respect of the world, because they have had to bear their share of discomfort for the sake of the boys over there?

In the early days of Christianity there came before Jesus of Nasareth a woman accused of adultery; and the crowd said, "Lord, the punishment is death by stoning." And He said, "He who is without sin among you, let him cast the first stone"; and within a short time, He opened His eyes and saw that all had gone but the woman, who still remained, unstoned. And He said, "Woman, hath no man condemned thee?" and she said, "No, Lord." And He said, "Neither do I condemn thee; go thy way in peace, and sin no more."

Now let me tell you, as administrator of the law of Pennsylvania, that you had better be careful how you throw stones, but profit by the modesty of the gentlemen who made this accusation of the woman before Jesus of Nazareth and withdraw in time. Your brothers in civil life have sinned, but not more than you in industrial life have sinned against those to whom you pretend to bring aid. There has in the past been more harm done, and more cripples have been made in the industries by maltreatment on the part of doctors than by industrial accidents themselves. We all know lots of people permanently crippled who could have been put on their feet, had they had a doctor with a decent knowledge of his profession. They have been ruined for life, and compensation has had to be paid them by those in industrial concerns. Now, if you are going to scrap licensure, where is your check on the type of men who are doing and will continue to do this sort of thing? And that is what you men are trying to do, consciously or unconsciously.

I have coming to my desk frequently complaints that different men employed in industrial concerns are not licensed; and on investigation, I find that they have been rejected after examinations several times as having small knowledge of their profession. In other words, you are bringing to Pennsylvania men who are not entitled or worthy to practice here. You are bringing in incompetent help, because it is cheap labor. We have had, throughout this war, a large number of men making efforts to come into this state and they are almost constantly employed by you gentlemen in industrial concerns. They are unlicensed. They have practiced medicine in different parts of the world, and have been unable to make a living. They are unfit doctors. We have men coming here who are crooks, and have been driven out of their own states. Some have been found to be fugitives from justice, and yet they are employed by you or your firms. And all this is done by you either without an effort to ascertain whether the applicant is licensed, or you know that he is not and employ him in spite of the knowledge. Cast the first stone who dares.

This bureau made a campaign against inefficient hospital work in this state. We did not go to the boards of directors and say, "Your superintendents are incompetent"; but we showed them the conditions and let them judge for themselves. The result was that the year before the war there were fifty or sixty vacancies in the position of hospital superintendent. The "glove was thrown down" this morning, when it was stated that licensure should be scrapped; the challenge is accepted. We are going to open a campaign. The public and your companies do not know what you are doing in the way of employing incompetent and unlicensed assistants. We are going to show the real state of affairs; and if there are vacancies in the medical departments of fifty or sixty state industrial plants in the post of head physician, blame no one but yourselves. The Bureau of Medical Education and Licensure has this industrial question at heart as much as any one else can have, and we do not purpose that men shall be employed as doctors who are not competent. I am speaking in a general way, apparently including you all, but I am only hitting at a few. I do not want to be personal, and therefore I make these statements general. You all know, however, that what I am saying is true, and that there is warrant for an active campaign against this condition. We purpose showing the industries that their interests are not being conserved; that they are paying compensation for cases that they should not because of incompetent work on the part of the doctor, and we are going to demand that the poor man who is not able to protect himself be protected by the people in a position to do it.

Now there is no question in my mind but that the whole trouble with this abuse of the practice of medicine, I will not say in Pennsylvania only but in the whole country, lies with you and with me and with our own profession; we are the ones to correct it and not the public, who will do so if we do not.

Detailed reports come to us in Harrisburg and we have the data; and you can be assured that if we turn any man or woman down, when applying for licensure in Pennsylvania, the action is amply justified and much more than justified; because if there is any doubt it always is given in favor of the applicant. If we have refused a license, you can be sure that there is a reason for it that would cause you, yourselves, if the case were put before you, to applaud the action.

Dr. Patterson: In this discussion, I want to say that the State Department of Labor and Industry and the State Bureau of Medical Education and Licensure are preparing a joint communication that will go to every industry in Pennsylvania, showing what duties are comprised in the Medical Practice Law and what is required.

The subject is open for general discussion. We want to hear from everyone. We do not want to adjourn too soon. We want the subject spread broadcast and discussed to the fullest extent. Surely, ladies and gentlemen, the topics presented here today must have awakened in you many thoughts. Let us have a full expression of them at this time. Our legislature meets in January and will consider amendments to the Compensation Law and other medical matters. Ought our Compensation Law to be amended? Ought we to have health insurance? There are a dozen angles from which these things can be viewed. Let us have an opinion from you now. Do you believe that reconstruction, as carried on by the government at Washington, is being done efficiently? Let us put the cards on the table. The criticism that I have had at other meetings is that there had been no opportunity for discussion. Now you have one of the livest of subjects before you, and there is plenty of space in which to get up and talk about it. Why, ladies and gentlemen, I should hate to adjourn this meeting after simply having the words of wisdom that came from Mr. Rose and Mr. Baldy.

Mr. James A. Steese: Perhaps a question might draw this out. I did not quite get from Mr. McMurtrie in what way the Compensation Law might be improved in our state. I gathered from what he said that there was a better way of handling compensation than handing out lump sums, and I gathered that he believes that it is best to treat the patients and, when self-sustaining, drop them. Is this your idea, Mr. McMurtrie?

Mr. McMurtrie: I said that I had not as yet been able definitely to make up my mind as to just what changes should be made in the present compensation legislation. It is my thought, however, that there might be a minimum compensation which would be given to a man irrespective of diminution or increase of earning power, and then a further discretionary compensation if the man endeavored earnestly to rehabilitate himself and failed. The important thing is that compensation provisions should encourage return to work rather than encourage a man to remain in idleness. It is possible so to arrange the provisions of the law that a man will profit from getting back on the job.

Dr. John C. A. Gerster, of the American Mutual Liability Insurance Company, New York City: I heartily agree with Dr. Baldy about the amount of crippling from incompetent surgery going on at present. I have seen this in a number of states. Every one, the working man, his union, his employer, all lose. The incompetent doctor is the only gainer. One surgeon has said that the passage of the Workmen's Compensation Act in New York State created 5,000 self-styled surgeons. Let us take the case of one patient whom I saw who had sustained a transverse cut of the forearm six weeks previously. The doctor who treated him simply staunched the flow of the blood and neglected to repair the divided median nerve and divided tendons. The man as he was at the time I saw him was crippled for life. Had he been willing to accept the very best surgical skill for the repair of his injury, it would have taken him from one to two and a half years to get anything like good function in that forearm and hand. I think Dr. Baldy cannot be too strongly upheld in his endeavor to raise the standard of surgery.

Regarding surgeons' bills, there is something to be said on the side of the surgeons themselves. As Mr. Rose has just pointed out, the principle of getting something for nothing, in vogue at the present time, should die. Surgeons are doing charity work now just as they did in colonial days. With the price of modern work, many surgeons of ability naturally have come to devote most of their time and attention to work that pays; hence, the so-called charity cases are turned over to interns or others who do not have adequate experience. If accident cases are to receive the attention they deserve, this attention must be properly paid for.

The best way for employers to protect themselves against over-charges and poor medical service is to have their medical adviser look over the doctor's bills and see to it that such bills depend on the character of the injury, the treatment properly required, and the amount of skill displayed in carrying it out. This presupposes that the doctor who is to pass on these bills is an experienced surgeon. It is not necessary to employ him for more than one or two hours a day. No matter how well-intentioned a claim agent is in his attempts to do the right thing, he is not a medical man, he is not a surgeon, and he cannot tell good surgery from bad except in the plainest sort of cases. He must have a surgeon to advise him. Claim agents often follow a fixed price list for given injuries. This is absolutely unsound, because injuries, for example, fractures, vary. In one case the bones may be set at the first attempt. In another, it may take two or three attempts before a proper reduction can be accomplished. It is manifestly wrong to expect the same charge to be made in both cases.

It would be a good thing if the medical adviser of a company should instruct men in the claim department regarding certain elementary principles; for example, in wounds of the forearm if the injured man is told to separate his fingers and cannot, an injury of the ulnar nerve is very likely, and one should not wait for the later deformity before diagnosing this condition. The claim department should be told that fractures of the neck of the femur are more safely treated by orthopedic surgeons. As I am a general surgeon, I make this statement without prejudice.

That the maximum of medical attention means the minimum of disability is borne out by the experience of two large companies, one a railroad, the other an accident insurance company. The accident insurance company's claim department have told me that their best investment is the money they pay in skilled surgeons of standing whom they employ. One is Major John Moorehead, who is abroad with the army at present. The railroad company I have just referred to formerly paid out on an average $250,000 a year in claims. Their bills for medical treatment amounted to nothing. Each doctor got an annual pass and $1 a year. The doctor had his car and did not use the pass, and the $1 did not bring much medical attention. The company changed its policy. They told the surgeons to render bills which were fair. What resulted? The medical bills rose to $25,000 a year, and the amount paid out for claims dropped from $250,000 to $100,000. If to this $100,000 we add the $25,000 for medical services, we have a total expenditure of the claim department of $125,000 (medical bills plus paid out claims) instead of $250,000, as formerly. They cut their claim bill in half by paying living wages to their doctors instead of trying to get something for nothing.

The industries themselves are often at fault. In the state of Montana, where I was for a time last February, I was informed that the mining industries failed to use the wet drill. In Arizona they do use it. Dry drilling of rock causes fine particles of quartz dust to be thrown into the air; these particles reach the lungs of the miners. In Butte, Mont., I was told that there is a great deal of tuberculosis among men working under ground. At necropsy on men dying from this disease, section from the lungs can barely be made with the knife because of the amount of grit present in the tissue. The inhaling of quartz dust produces a mechanical insult of the lung tissue, making it fall a ready prey to the tubercle bacillus. In Arizona, where the wet drills are used in mining, the conditions of health are very much better.

Colonel Mock spoke of piecemeal legislation about vocational rehabilitation. I would add to Colonel Mock's list of groups to be remembered, the inmates of our prisons. In support of my contention, permit me to cite the survey made at Sing Sing by the Rockefeller Foundation. Seventy-five per cent. of the inmates were actually hospital cases. The state provided a perfectly inadequate sum for the medical attention of these men. The chief surgeon gets $2,000 or $2,500 a year, and must have been in practice eight years. He has one assistant with a salary of about half his own. Any promising intern nowadays can earn $2,500 immediately on leaving his hospital service. Hence very few men who have been in practice eight years would care to accept such an underpaid position. There is enough work for at least five or six men at this one prison alone. The workshops of the prisons do not constitute adequate vocational rehabilitation, as we see it at present. How can one expect men requiring hospital treatment to take proper advantage of such courses, if they were provided, until their physical ailments have been properly attended to? I remember the first time a nose and throat specialist came to Sing Sing. There were eighty men in line waiting for his attention. In some cases adenoids were so large that they could be seen hanging down behind the soft palate.

Dr. Patterson: I am going to call on a representative of organized labor who is here with us, Mr. John Phillips, vice president of the Pennsylvania Federation of Labor, to come forward and say a few words.

Mr. John A. Phillips, First Vice President of the Pennsylvania Federation of Labor, Philadelphia: I have listened today with great interest to the various papers and addresses on the subject of rehabilitation, and it seems to me that while, as a labor man, I am opposed to controversies, the mild one which has arisen here will perhaps be productive of some good. The thought that it created in my mind was this: That instead of the doctors alone meeting here and discussing this subpect almost entirely from the viewpoint of the doctor, it would be much better if we could have a meeting, representing all of the elements that are interested in this very important subject, so that conclusions which would be universally satisfactory might be reached.

I recall distinctly that during the time the compensation act was before the Pennsylvania legislature the doctors were very little in evidnce. I know that after the bill was enacted there was considerable criticism from the doctors as to the terms which affected them directly in that act, and I feel that none of us appreciated fully at that time the important position with relation to the subject of compensation occupied by the medical profession. I realized, also, as I listened to the several speakers that. after all, these discussions have come about because of the development of that social responsibility in Pennsylvania which took new life a few years ago with reference to industrial questions, and that the situation has now broadened to an extent where we are beginning to see the larger importance of aspects of the situation which were not apparent when compensation for industrial accidents was originally discussed.

Some highly interesting suggestions have been made. One impressed me particularly, and that was the one which Mr. McMurtrie proposed, that some regulation be introduced into the compensation laws which will provide for the return of the industrial cripple to economic independence. I think that idea should be given the most serious consideration and, if possible, a plan worked out whereby a practical means of carrying out such a system may be included in the law. I feel, also, that in the whole work of rehabilitation the burden is going to come largely on the industrial physicians and surgeons.

I agree heartily with the stand taken by Dr. Baldy, because I believe that the character of service rendered by the physicians has a most important psychologic effect on those who are injured in industry. If our industrially injured feel they are being accorded the best kind of medical attention available, the results, in practical benefit to the state as a whole, are going to be very greatly increased. I was not in touch, I must confess, with this aspect of the question to any great extent, but I feel now that the position of the doctors of the state is of the very highest importance in relation to the whole question. I might venture to state that the work of rehabilitation should be carried on absolutely under their direction.

In the labor movement we viewed compensation legislation almost solely from this standpoint—the injured industrial worker was the victim of the contingent fee attorney or seeming injustice on the part of the courts, and this was the view which prevailed generally. Consequently, it appeared to us that the whole situation would be cured if a means could be devised through which the injured worker could be assured of some actual remuneration for his injury. But we did not take into serious consideration, I am frank to say, the relationship of the medical profession to the compensation system. We argued, or rather, it was argued to us, that if we have compensation, an expense will be placed on industry which will have the effect of eliminating industrial accidents. Compensation does provide a definite return to the injured worker, and it does protect him and his family from abject poverty. But it does not cover the field in any sense of the word.

I seems to me that what we require is, first of all, the closest attention on the part of the Department of Labor and Industry to the continued betterment of the sanitary conditions surrounding industrial workers. The situation also demands, if we are to accept as our real purpose the conservation of man power, the very best type of medical care obtainable; and, on that point, I believe the higher the standards that are maintained by the physicians and surgeons, the better is going to be the service that the workers can have given them. As a representative of these workers, I am entirely in favor of the physicians and surgeons insisting on the highest possible standards in their profession.

Colonel Mock, I think, made a very impressive statement when he said that we cannot do this work properly by the introduction of piecemeal legislation. I agree with him that the subject is so big, and of such paramount importance to the people of the state, that it would be well to provide for a commission, amply provided with funds and facilities, to make a survey of the entire situation, and then, through a coordination of all of the factors, to bring about a general system which will cover the whole field. I believe that is the way in which the work will eventually have to be done in order to get the maximum of results.

The Pennsylvania Federation of Labor stands ready to cooperate with any movement that will be of assistance to the workers of our state. We are not aspiring to any control, nor have we any axes to grind. We are in hearty accord with the work of the Department of Labor and Industry, and all of its divisions, and have been since its inception. We believe that in the compensation bureau we have had a masterly administration, and that the entire administration of the Department of Labor and Industry has been eminently fair. In the Division of Hygiene and Engineering, of which Dr. Patterson is chief, a vast amount of valuable work has been done for the workers of Pennsylvania. We feel sure that if we will all bend our efforts towards cooperating, not criticizing too severely, and certainly not attempting to blame each other, we shall be able to work out in Pennsylvania, as a logical result of what has already been done, the very best system in the United States for the care of our industrial workers.

Mr. Arthur J. Rowland, of the Federal Board for Vocational Education, Philadelphia: Before the meeting closes, if I can have two minutes I should like to use them to ask the aid of the people here and of the firms represented, in connection with what the Federal Board for Vocational Education is doing for discharged disabled soldiers and sailors. I represent the office of the board managing things in District 3, which includes the states of Pennsylvania and Delaware.

One thing (the best thing) you can do, is to help open the way for disabled men to find their way into employment in establishments where there is work they are perfectly able to do. I know a number of things which I should not state in public. These, along with experiences of various returned soldiers, whom I know, prove that there are industrial establishments in Pennsylvania where the presentation of an honorable discharge makes the refusal of work certain. That is true at this very time when the war is just over and patriotic spirit is still high. I feel there must be some adjustment possible, so that disabled men may be given reasonable consideration.

The difficulties could doubtless be better dealt with if there were a better understanding of the types of disability found among the men who are coming back. There is certainly a good deal of misunderstanding now. In the Philadelphia office now something like 22 per cent. of the disabled men have tuberculosis; and about 20 per cent. have heart trouble. Those who suffer from nervous disorders, shell shock and that sort of thing, come next. If I remember correctly, the number who have suffered amputations is under 4 per cent. The type of disability we need to keep in mind, the kind of disabled soldier we used to be ready to help, is for the most part the man whose disability is such that we cannot see it.

The other thing in which I ask your help is in locating places where disabled men can be used. It is hard to find the place for a given man; but that is the way our work must be done. Each individual must be separately considered; a large number of inquiries are necessary, made on a chance in order to find something suitable. It ought to be easier to have definite needs and places reported to us and catalogued as opportunity, into which we could place individuals, than for us to feel around for possible places where a man with a given disability can do the work satisfactorily.

These are the two things I would like to leave with you and ask you to think them over. Any help you can give will be greatly appreciated.

Dr. Patterson: Before adjourning the meeting, I wish to express, on behalf of the Department, the deep appreciation that we in the Department of Labor and Industry feel for your coming here to help us try to solve these problems. We cannot solve them alone. We must have the assistance of the doctors, of the industries, of organized and unorganized labor, that we may be always in the front rank as a great industrial state. In behalf of the Department, I express hearty and warm thanks to you, and the meeting stands adjourned.

Adjourned at 5:20 p. m.

List of Persons Attending the Seventh Conference of Industrial Physicians and Surgeons, held Under the Direction of the Department of Labor and Industry, Dec. 6, 1918

Dr. C. D. Ambrose, Ligonier; Ramsey Coal Company.

C. B. Auel, East Pittsburgh; Westinghouse Electric and Manufacturing Company.

F. H. Babcock, Pittsburgh; Pittsburgh and Lake Erie Railroad Company.

Dr. William F. Baker, 1425 Spruce Street, Philadelphia; Hahnemann Medical College.

Dr. J. M. Baldy, 2219 DeLancey Street, Philadelphia; Bureau of Medical Education and Licensure. Harrisburg.

M. Barnert, 1710 Market Street, Philadelphia; Ordnance Department, U. S. Army.

Abraham M. Beitler, 750 Bullitt Building, Philadelphia; Grand Lodge Masons of Pennsylvania, Broad and Filbert Streets.

A. L. Biansardi, 311 Grace Street, Old Forge; Pennsylvania Department of Labor and Industry.

Dr. C. A. Bicking, 5177 Liberty Avenue, Pittsburgh; American Sheet and Tin Plate Company, American Bridge Company, Frick Building.

Dr. J. C. Biddle, State Hospital, Ashland; State Hospital.

Dr. E. W. Bing, Chester; George C. Hetzel Company.

Dr. W. H. Blakeslee, 3328 N. Seventeenth Street, Philadelphia; Pennsylvania Department of Labor and Industry.

William J. Boston, Lester; Westinghouse Electric and Manufacturing Company, Essington Works.

Dr. T. John Bowes, 1000 Chestnut Street, Philadelphia; Philadelphia Electric Company.

Dr. Tressa M. Bradish, 411 Lighthouse Street, Erie; General Electric Company.

H. J. Bradley, Y. M. C. A., Chester; Chester Shipbuilding Company.

E. A. Brennan, Newark, N. J.; Federal Employment Bureau.

Dr. Elizabeth B. Bricker, Harrisburg; Pennsylvania Department of Labor and Industry.

Dr. Howard E. Bricker, 2200 N. Eighth Street, Philadelphia; Philadelphia Rapid Transit Company. Eighth and Dauphin Streets.

Dr. F. E. Brister, 605 Reading Terminal, Philadelphia; Philadelphia and Reading Railway Company.

H. L. Brunson, Federal Board for Vocational Education, Washington, D. C.

Col. Lewis T. Bryant, Trenton, N. J.; Commissioner of Labor.

James R. Caffrey, 123 Pennsylvania Avenue, Newark, N. J.; Federal State Municipal Labor Bureau, 9 Franklin Street.

Dr. J. Lawson Cameron, 1500 Girard Avenue, Philadelphia.

Miss B. M. Cannon, 426 Washington Street, Boston, Mass.; William Filene Sons Company.

Dr. Samuel A. Carpenter, 2265 North Sixteenth Street, Philadelphia; Curtis Publishing Company, Independence Square.

Miss Sara O. Casey, 36 Jacoby Street, Conshohocken; Alan Wood Iron and Steel Company.

Dr. R. C. Casselberry. 700 Madison Avenue, Chester; The Baldwin Locomotive Works, Eddystone.

Dr. Dorothy Child, 5023 McKean Avenue, Germantown, Philadelphia.

J. J. Coffey, 1115 North American Building, Philadelphia; Pennsylvania Department of Labor and Industry.

Dr. M. B. Cooperman, 1811 S. Broad Street, Philadelphia; Franklin Sugar Refining Company.

James T. Daily, Finance Building, Philadelphia; United States Public Service Reserve.

Dr. T. H. Davies, 916 Delaware Avenue, Wilmington, Del.; Joseph Bancroft Sons & Company.

Dr. George C. Davis, Milton; American Car and Foundry Company.

Dr. Herbert L. Davis, 714 Schofield Building, Cleveland, Ohio; Standard Parts Company.

Dr. Alex. Heron Davisson, 4514 Springfield Avenue, Philadelphia.

Paul Day, 1417 Sansom Street, Philadelphia; Penn Seaboard Steel Corporation.

Dr. G. E. Dietrich, Coatesville; Coatesville Boiler Works, Coatesville Foundry and Machine Company.

Lieut.-Col. Philip S. Doane, 2030 DeLancey Place Philadelphia; United States Shipping Board, Washington, D. C.

Dr. R. B. Dobbins, 1603 Ford Avenue, Youngstown, Ohio; Youngstown Sheet and Tube Company.

James B. Douglas, 1401 Arch Street, Philadelphia, The United Gas Improvement Company.

Dr. Paul B. Dunn, Mahanoy City; Philadelphia and Reading Coal and Iron Company, Pottsville.

Mrs. L. J. Earl, 206 Noble Street, Norristown; Alan Wood Iron and Steel Company, Conshohocken.

Dr. Seneca Egbert, University of Pennsylvania, Philadelphia; University of Pennsylvania.

Capt. William J. Ezickson, 2242 N. Front Street, Philadelphia; M. C., U. S. Army.

Dr. W. D. Farber, Northampton; Lawrence Portland Cement Company.

Richard V. Farley, 515 North American Building, Philadelphia; Pennsylvania Department of Labor and Industry.

Dr. F. U. Ferguson, Gallitzin; Pennsylvania Railroad Company, Pennsylvania Coal and Coke Corporation, Inland Company, Taylor & McCoy Coal Co.

Mrs. F. U. Ferguson, Gallitzin.

Dr. Judson C. Fisher, 45 William Street, New York City; Globe Indemnity Company.

Mrs. Katherine Fischer, 3310 Powelton Avenue, Philadelphia; University of Pennsylvania.

Mrs. A. W. B. Fletcher, The Aldine Hotel, Philadelphia.

H. W. Fry, *Evening Bulletin*, Philadelphia; *Evening Bulletin*.

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Dr. James W. Geist, 527 S. Franklin Street, Wilkes-Barre; Lehigh and Wilkes-Barre Coal Company, 16 South River Street.

R. E. Gephart, York; Manufacturers' Association of York.

Dr. J. C. A. Gerster, 34 E. Seventy-Fifth Street, New York City; American Mutual Liability Insurance Company, 18 E. Forty-First Street.

Miss Effie D. Gilman, Harrisburg; Pennsylvania Department of Labor and Industry.

Harry J. Goas, Trenton, N. J.; New Jersey Department of Labor.

Frank P. Graves, University of Pennsylvania, Philadelphia; University of Pennsylvania.

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Dr. Martin E. Griffith, Monessen; Pittsburgh Steel Company, Pittsburgh.

Dr. Charles F. Hadley, 3320 Federal Street, Camden, N. J.; Keystone Leather Company, Royal Coco Company.

Dr. G. H. Halberstadt, Pottsville; Philadelphia and Reading Coal and Iron Company.

Dr. William J. Hammond, Boston, Mass.

Dr. Earle A. Harding, Harrisburg; Pennsylvania Department of Labor and Industry.

Mrs. Ellen Hardman, New Brunswick, N. J.; United States Department of Labor, Washington, D. C.

J. Lloyd Hartman, Mifflintown; Pennsylvania Department of Labor and Industry.

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Dr. W. B. Henderson, Philipsburg; Cottage State Hospital.

Thomas Henwood, Scranton; Pennsylvania Department of Labor and Industry.

Dr. William S. Higbee, 1703 S. Broad Street, Philadelphia; Pennsylvania Salt Manufacturing Company.

Dr. Hiram M. Hiller, Chester; Sun Shipbuilding Company, Penn Seaboard Steel Company, Suburban Gas Company, Sun Oil Company.

Dr. S. W. Hobson, Newport News, Va.; N. N. S. and D. D. Company.

Mrs. Florence S. Holmes, 207 Academy Street, Trenton, N. J.; Federal State Municipal Employment Service.

Dr. Paul M. Holmes, 210 Otis Building, Philadelphia; United States Public Health Service, Washington.

Dr. William F. Holmes, Hog Island; American International Shipbuilding Company.

L. W. Hoon, 116 S. New Street, Bethlehem; Bethlehem Steel Company.

Dr. P. D. Hoover, Waynesboro; Landis Tool Company.

Dr. H. P. Hourigan, 735 Seneca Street, Buffalo, N. Y.; Larkin Company.

Dr. B. C. Houser, 1811 Berks Street, Philadelphia; Atlantic Refining Company, 3144 Passyunk Avenue.

Dr. George M. Hughes, Eighth and Madison Streets, Chester; Aberfoyle Manufacturing Company.

Dr. William R. Hurley, 66 Chestnut Street, Quincy, Mass.; Fore River Shipbuilding Company.

Louis A. Irwin, Harrisburg; Pennsylvania Department of Labor and Industry.

Miss Linda James, 24 Prescott Street, Cambridge Mass.

Dr. J. P. Jones, 734 Fourth Street, Niagara Falls, N. Y.; Union Carbide Company.

Dr. H. M. Keller, Hazleton; A. S. Van Wickle Estate.

Dr. Howard D. Kessler, Ridley Park, National Aniline and Chemical Company, Marcus Hook.

M. R. Kift, 4044 Haverford Avenue, Philadelphia, Sauquoit Silk Manufacturing Company, Eighteenth and Hunting Park Avenue.

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Douglas C. McMurtrie, 311 Fourth Avenue, New York City; Red Cross Institute for Crippled and Disabled Men.

Dr. W. H. Means, Lebanon; Bethlehem Steel Company.

Dr. S. P. Mengel, 181 S. Franklin Street, Wilkes-Barre; Lehigh Valley Coal Company.

C. W. Miller, Y. M. C. A., Harrisburg; Y. M. C. A.

G. W. Moffatt, Harrisburg; Pennsylvania Department of Labor and Industry.

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W. E. Stubbs, Trenton, N. J.; Compensation Bureau, State of New Jersey.

Col. A. L. Stute, Union N. J.

Dr. Edmund B. Sweeney, 1721 N. Sixteenth Street, Philadelphia; Pennsylvania Manufacturers' Casualty Insurance Company, Henry Disston & Sons, Inc.

Dr. Jackson Taylor, Coatesville; Lukens Steel Company.

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Dr. Mervyn Ross Taylor, 1823 Spring Garden Street, Philadelphia; A. M. Collins Manufacturing Company, Bell Telephone Company of Pennsylvania.

Dr. Charles C. Thompson, 724 N. Sixty-Third Street, Philadelphia; A. B. Kirschbaum Company.

M. H. Umback, *Public Ledger*, Philadelphia; *Public Ledger*.

Dr. Frederick L. Van Sickle, Olyphant; Delaware and Hudson Railroad Company.

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Dr. S. L. Weintraub, 1239 South Broad Street, Philadelphia.

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Miss Evelyn B. Yeager, 19 North Fiftieth Street, Philadelphia.

Miss Florence N. Yeager, 19 North Fiftieth Street, Philadelphia.

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ORIGINAL ARTICLES

SOME RECENT RESULTS OF COORDINATION OF LABORATORY AND CLINICAL RESEARCHES IN PNEUMONIA *

SOLOMON SOLIS COHEN, M.D.
Professor of Clinical Medicine in Jefferson Medical College
PHILADELPHIA

This paper is intended to illustrate the advantages of close cooperation between clinical and laboratory students in the investigation of problems of high practical importance; and at the same time to bring before the profession at large, especially those who do not read the technical laboratory journals, some advances made by a group composed of a clinician and several experimentalists, in the study of pneumonia.

For more than twenty-five years I have been beseeching my friends of the laboratory to investigate two subjects: (1) The action of quinin in the human pneumonias, or in artificial infections resembling these; (2) the number and nature of the pneumonia poisons.

That there is a single poison, none of us can believe. The clinical phenomena indicate that many are at work. That the most important of these poisons in lobar pneumonia is a product of the pneumococcus, even the demonstratively injurious toxin of Cole, seems dubious; not only because the pneumococcus septicemia of animals is so different from the human pneumonias, but also in view of the results obtained by us and other observers in the poisoning of animals with pneumotoxin, on the one hand, and by us with the pneumonic exudate poison, on the other hand. Among the clinical phenomena in human pneumonia of the lobar type, it is further necessary to study particularly the crisis, for this must hold the key to the pathologic and therapeutic problems.

After having been rebuffed for many years by experimentalists, I was enabled, three years ago, by a grant from my friend, Mr. Samuel S. Fels of this city, to procure the services of certain able and active young men, notably, Dr. George D Heist, Dr. Edward Steinfield and Dr. Charles Weiss, who were not yet too far advanced on their special careers to accept problems offered by others. Dr. Weiss was at the time a graduate student in immunology at the University of Pennsylvania. I was also fortunate in having the active and interested cooperation of Dr. John A. Kolmer of the Philadelphia Polyclinic and the University of Pennsylvania. Through the courtesy of Dr. Allen J. Smith of the latter school, some of the experiments were carried out under Dr. Kolmer's supervision or by him personally, in the McManes Laboratory of Experimental Pathology. Other questions were studied in the Jules E. Mastbaum Laboratory of the Jewish Hospital of Philadelphia. The clinical studies were made in my services at Jefferson Hospital, the Philadelphia General Hospital and the Jewish Hospital. We are indebted to Dr. Frederic Rosengarten for making and supplying us with a great variety of quinin and cinchonidin salts. Of these, let me say in passing, the dihydrobromid has proved to possess special and unsuspected therapeutic powers.

The four principal problems which we attacked simultaneously were:

1. Is there a tissue or blood poison in human lobar pneumonia?

2. What are the relations between the pneumonia poisons and quinin? That is to say, do they affect one another in any way? Does one modify in any way the toxic action of the other? Can the remarkable tolerance for quinin shown by the subjects of lobar pneumonia in particular, be explained by a mutually antagonistic or inhibitory effect, chemical or pharmacologic, of drug and poison?

3. Have quinin and its congeners and derivatives, in other words, the group of cinchona principles, natural and modified, any specific action (bacteriotropism) upon pneumococci in general or any special type of pneumococcus, or on other organisms concerned in the pneumonias?

4. What other action, if any, in addition to its ordinary pharmacologic effects and its destructive action on pneumococci or other germs, does quinin have, when given to pneumonia patients? Does it increase resistive processes, general or special? Does it interfere with aggressive or other pathologic processes, general or special? Why does it prevent crisis and bring about termination by lysis?

We were fully aware that some of our work might lead us, as it did, into blind alleys; but we were willing to explore these blind alleys and mark them, to keep others out.

Our study is not yet complete, but we have made progress. Some of our results, both positive and negative, have been published.[1]

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

[1] See Bibliography appended.

Some still await publication. The most striking may be summarized briefly.

I. A PNEUMONIC LUNG POISON

We found, as I had long contended, and as Dr. Kolmer also had come to believe, that there can be extracted from the pneumonic lung, and probably coming from the exudate, a poison which cannot be demonstrated in the normal lung. When injected into animals it produces various toxic symptoms and prompt death. This particular phase of the work was carried out by Dr. Kolmer with the assistance of Drs. Steinfield and Weiss, and with the further cooperation of the Pneumonia Commission of Philadelphia.

II. POWER OF QUININ TO COMBAT THE PNEUMONIC LUNG POISON

A. Drs. Kolmer, Weiss and I found that certain salts of quinin when given to animals poisoned with the extract from pneumonic lungs, prolonged their lives from twenty-four hours to six days beyond the life of control animals similarly poisoned, but not treated with quinin. Using both *in vitro* and *in vivo* methods, it was found that quinin hydrobromid in particular exerted a very marked neutralizing action on the toxicity of pneumonic lung extracts, in that therapeutic doses prolonged the life of the animal up to five days or more after the injection of a lethal dose of the extract; quinin hydrochlorid, quinin and urea hydrochlorid and ethylhydrocuprein hydrochlorid afforded less protection.

B. Among the toxic symptoms of the pneumonic lung poison is hemolysis. Certain of the quinin salts inhibit *in vitro* this hemolytic action. Using dilutions of these salts in doses ranging from 0.00001 to 0.002 gm. and 1 M. L. D. of poison we found that ethylhydrocuprein hydrochlorid and quinin and urea hydrochlorid gave a slight inhibition when large doses (of themselves hemolytic) were used. Quinin hydrochlorid, quinin hydrobromid, quinin bisulphate, and hydroquinin hydrochlorid behaved in a reverse way, giving marked inhibition in nonlytic doses and no inhibition in lytic doses. The ease of precipitation of the former salts in the presence of protein solutions and the greater solubility of the latter in protein solutions are factors possibly entering into an explanation of these phenomena.

We have here, in the finding of the pneumonic lung poison and in the proof of its partial conquest by quinin, two quite demonstrative groups of phenomena unknown before this investigation was undertaken. I emphasize these as definite results of the cooperation between the clinician who has formed certain ideas—fads, if you please—as the result of long years of observation at the bedside, and the laboratory man who is able to put such theories to the test of experiment. The nature and scope of the experiments, of course, were determined in conference and after full discussion from both viewpoints.

III. QUININ AS A PNEUMOCOCCICIDE

Certain other things not quite so novel were brought out or re-emphasized by our study. Among these were (1) the demonstration that all cinchona derivatives have a positive bacteriotropism toward the three types[2] (I, II, III) of pneumococcus studied. While this is perhaps greatest in Type II and least in Type III, the variations among individual strains of the same type are sometimes as great as that between types; so that there is, for practical purposes, no difference. (2) Quinin compounds and derivatives are not only fatal to the three types of pneumococcus, but also far more powerful in this respect than any other agents known. They thus offer the best "lead" for specific chemotherapy.

A beginning in this latter direction had apparently been made by Morgenroth. Dr. George D. Heist, Dr. Kolmer and I, therefore, experimented with Morgenroth's optochin (ethylhydrocuprein and its hydrochlorid) and other cinchona derivatives as to (*a*) their relative toxicity to the pneumococcus, and (*b*) their relative toxicity to animals and presumably to human beings. I say "presumably to human beings," because the result of our animal experiments deterred us from the administration of optochin to man. Further modification of the molecule is needed to make it safe.

We found, indeed, that the superiority, as a pneumococcicide *in vitro*, of Morgenroth's synthetic (optochin) over the various unmodified quinin salts had not been exaggerated by previous reporters. It is from ten to twenty times as powerful as the most powerful among the unmodified salts, being effective, when studied by the test tube or "antiseptic" method, in dilutions of from 1:1,000,000 to 1:2,000,000.

This superiority, however, is lost, in a measure (the germicidal power being reduced 80 per cent.) when serum is used as a medium of dilution instead of salt solution. Optochin was found, moreover, to be vastly inferior to all of the unmodified quinin salts for possible use as a therapeutic agent in human pneumonia, in that it is in itself a profound cardiac and vascular depressant. It kills animals in a less relative dose than does any of the unmodified quinin compounds. The reports of those who have used it clinically in pneumonia also show that it is dangerous, and in certain cases it has produced permanent blindness.

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[2] Probably to all types, although, on clinical grounds, I suspect the existence of an extremely resistant variety of Type IV.

While, therefore, in pneumococcic septicemia in the mouse, ethylhydrocuprein and its compounds are often effective both prophylactically and curatively, and in local infections with the pneumococcus we have nothing equal to them, the drug is to be banned absolutely for internal use with human beings. It belongs, so far as systemic infections are concerned, with heroin, aspirin, phenacetin, and the like, in the *Index Expurgatorius* of rational therapy. Not that it is invariably harmful, but that it is always dangerous.

As to the relative germicidal activity of the various quinin salts, we found the dihydrobromid most fatal to the pneumococcus, killing in dilution of 1 : 200,000. Next fatal was the hydrobromid, 1 : 100,000. The bromids, moreover, are more active (increasing 100 per cent.) in serum than in salt solution. Quinin and urea hydrochlorid kills pneumococci in a dilution of from 1 : 20,000 to 1 : 40,000, and the other quinin salts in dilutions of from 1 : 10,000 to 1 : 80,000. These suffer a slight diminution of activity in serum. Suitable administration of any of these drugs not only keeps the blood of pneumonia patients sterile, but also renders it germicidal to pneumococci in the test tube.

The practical conclusion to be drawn is that for administration *per os* in the pneumonias, the dihydrobromid, and next to it, the hydrobromid, are to be preferred among quinin salts. For intramuscular and intravenous use the high solubility of the quinin and urea compound still gives it the advantage, unless a very dilute solution is to be used. (Intramuscular injection, as will be seen later, also tends to increase phagocytosis.)

Furthermore, it was found that the sterility of human blood for the various pneumococci is better maintained by frequent moderate doses of quinin by the mouth, than by large doses at long intervals, but that small doses are altogether useless for this purpose. The methods finally adopted as apparently *optimum* are to begin with a large dose, 1.3 to 1.6 gm. (20 to 25 grains) of quinin dihydrobromid or hydrobromid orally, and continue with doses of 0.3 gm. (5 grains) every three, or at most, four hours; or to use the quinin and urea compound intramuscularly as heretofore advised, in gram doses (15 or 16 grains) every three hours; or intravenously in doses of 0.6 to 1 gm. (10 to 15 grains) repeated in twelve or twenty-four hours. When cases are first seen in an advanced stage, it is well to begin with a large intravenous dose, if possible; or at least with an intramuscular injection. Oral administration or even the rectal route (suppositories) may then be employed to keep up the effect. Further clinical details are out of place, but will be found in my clinical papers,[3] the most recent of which appeared in the *New York Medical Journal* for June 8, 1918.

IV. THE BLOOD AND ITS CONSTITUENTS

Serum, isolated red and white corpuscles, defibrinated blood and whole blood were all studied in one way or another, both in relation to the problem of toxemia and in relation to the action of quinin. I can here report only a few of our findings.

A. *Quinin increases blood resistive power, particularly phagocytosis.* Dr. Steinfield was charged with the determination of the effect of quinin on leukocytosis, and in especial on phagocytosis. It was shown that compounds or derivatives of quinin in high dilutions, accelerate the phagocytosis of pneumococci by rabbit leukocytes. Low dilutions of cinchona derivatives retard phagocytosis and induce degenerative changes in leukocytes. The administration of quinin derivatives to rabbits by intramuscular injection increases the phagocytic powers of the blood for pneumococci. The intramuscular injection of cinchona derivatives in rats increases the total number of leukocytes in the peripheral blood. Lesser degrees of leukocytosis follow the intravenous injection of these compounds. The experiments should be repeated with other animals. The rabbit is an especially unfavorable subject.

B. *Pneumonic Blood Poison Not Demonstrated.*—Dr. Weiss was charged to find in the blood or serum of pneumonia patients and animals inoculated with pneumococci a toxic substance or substances not present in normal blood. His results were negative. That does not mean that no poison is there, but that none was found. Improved methods, it would seem, should detect, if not the pneumotoxin, at least the exudate poison that we have demonstrated in the lung extract. However, this whole question remains for future study.

C. *Germicidal Properties of Whole Blood.*—This was studied by Dr. Heist by a special method of which more will be said hereafter. We find that certain specimens of unaltered human blood kill the pneumococcus of Types I, II and III. We presume that the persons from whom this blood is taken are insusceptible to the pneumococcus. We find that unaltered blood of persons recovered from pneumonia will kill the pneumococcus of the particular type with which they have been infected. We infer from this an acquired immunity, for the time being, at least. We find that there are other human beings whose blood does not kill the pneumococcus. These are presumably susceptible and some of them were made the subject of bacterination (so-called vaccination) experiments, of which I can only say that they promise well. They are not as yet definitely conclusive of immunity but they encourage me in the continued use of mixed cultures of pneumococci both as prophylactics and as therapeutic agents.

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[3] See Bibliography appended.

Also in animals we find certain species insusceptible to the pneumococcus; and other species highly susceptible. The chicken and the pigeon are insusceptible and their whole or living blood is fatal to pneumococci; the rabbit and the mouse are very susceptible, and pneumococci flourish in their whole or living blood. But we can, by a special plan of bacterination, make the blood of the mouse or the rabbit as fatal to the pneumococcus as is the blood of a chicken or a pigeon, and, by the method of study referred to, demonstrate the fact. The immunity produced is chiefly specific to type, but is also partially manifest to other types as well.

V. THE LACY-HEIST METHOD FOR DEMONSTRATION OF BLOOD IMMUNITY

Now as to the new method we have found for studying immunity in the whole blood. Dr. Heist, working at the Mastbaum Laboratory of the Jewish Hospital, had found, in carrying out some of our experiments concerning the destructive power on pneumococci of normal blood, and of the blood of pneumonia patients untreated or treated with quinin, that the serum, as well as the citrated blood and defibrinated blood of such persons, gave, at times, contradictory results. We endeavored to develop a method by which the whole circulating blood could be used; that is to say, the living blood unchanged by chemicals or by contact with the air. Prof. B. Frank Lacy of the Philadelphia Central High School, suggested that we might be able to accomplish this result through utilization of surface tension. Accordingly, what I wish to term the Lacy-Heist method of testing whole or circulating blood for its germicidal power was developed. This is not applicable to pneumonia only, but has a wide field. It has been described in the *Journal of Immunology* for July, 1918, and need not here be elaborated.

A film of the germ culture to be tested is obtained as a deposit on the wall of a capillary pipette, and the blood from the vein of the animal or patient studied is drawn directly into this prepared tube. The whole living blood is thus mixed with the culture. Several tubes may be used, with serial dilutions of the culture. They are incubated at blood heat for twenty-four hours, together with control cultures, after which their contents are blown out on slides and examined and compared microscopically, with and without staining. The blood, of course, coagulates during the process and the possible significance of this is discussed in the paper referred to. The main point is that we have the whole blood, with all the elements together, in natural proportion. If we can devise some means of preventing coagulation without introducing a new source of error, that will, perhaps, help in analysis of the results.

Dr. Kolmer has been kind enough to carry out similar methods on meningococci and finds the results dependable. My nephew, Dr. Myer Solis-Cohen, and Dr. Heist have studied the germ of infantile paralysis in the same way, with confirmatory findings. I am referring now to the merit of the technic, not to the facts brought out, which, so far as our own topic, pneumonia, is concerned, have already been stated.

The beauty of the test is that it leaves no doubt as to the result. Either the culture is killed absolutely, or it grows luxuriantly. Immunity may thus be demonstrated better than by agglutination, especially as regards Type III pneumococcus. One may, therefore, hope that this method, which belongs to the city of Philadelphia and to the Medical Society of the State of Pennsylvania, will prove a distinct advance both in the study of infectious diseases and in testing the worth, demonstratively and without the delay and fallibility of statistics, of our preventive, and perhaps of our curative, measures.

VI. BACTERINATION (SO-CALLED VACCINATION) AS A PROPHYLACTIC

The rabbit is highly susceptible to pneumococcus poisoning and it is extremely difficult to produce immunity in this animal. Dr. Heist, whose detailed report yet awaits publication, has, however, succeeded, as already stated, in immunizing rabbits against all types of pneumococci by a special method. He passed the pneumococcus culture through several generations of mice and rabbits until its high virulence was demonstrated by its prompt lethal effect on control animals—finding, incidentally, that cultures which, when tested by the Lacy-Heist method, will not grow in the blood of an animal, will not kill it; and, contrariwise, that cultures which do grow in the blood prove fatal. Virulent cultures being produced, a rabbit was inoculated with a massive dose, and a suspension of living bacteria obtained by washing the peritoneal cavity with sterile salt solution—the animal having been chloroformed and opened aseptically, just before death. This suspension contained about one billion pneumococci to the cubic centimeter. The cells were thrown down by centrifugation, and the supernatant fluid drawn off and heated to 53 C. for twenty minutes. Phenol solution (0.5 per cent.) was added to complete the sterilization. The bacterin thus prepared gave to rabbits an effective protection against lethal doses of pneumococci. This protection is specific as to type, but there is some indication of a lesser degree of protection against pneumococci of all types.

Obviously, the method is inapplicable to the production of commercial vaccines on a large scale; but this is probably unnecessary for prophylaxis in human beings, since the ordinary suspensions of mixed bacterins in salt solution (as used by Bergey, Smith and Dare, and by Cecil and Austin) as well as the "lipovaccine" of Whitmore, while they failed in rabbits—except in a few experiments with Type I—have apparently proved successful in men. But the fact that rabbits can be immunized by the Heist bacterin even against Type III, is worthy of note, and may give us greater confidence in the value of prophylactic and therapeutic bacterination in man. Heist Type III bacterin, moreover, is well worth an extended trial in the treatment of Type III pneumonia, seen early.

VII. PNEUMOTOXIN SKIN-TEST REACTION

The question of early diagnosis of pneumonia is important; and if possible, the determination of type at the bedside, without waiting for cultures and agglutination tests. Several attempts have been made to carry out a skin test reaction. Dr. Steinfield tried the usual method with cultures, but without result. When Dr. Weiss and I began our studies with Cole's pneumotoxin in relation to quinin, I suggested that we should also try it as a cutaneous reagent in diagnosis. In more than 80 per cent. of the pneumococcus pneumonia cases we got a definite skin reaction from the use of the pneumotoxin test, and we have yet failed to get it in any other cases than lobar pneumonia. As yet we have not thoroughly tried it out as to the possibility of separation of types, and it is evident that this would be difficult; but the method is a demonstrable index of the presence of pneumococcic infection. Unfortunately the test has not yet been demonstrated early, but we shall make further essays in that direction. The skin was scratched and treated with pneumotoxin Type I, freshly prepared, in sodium choleate solution. Control tests with sodium choleate only, did not give the reaction.

Among human adult cases of lobar pneumonia the reaction (which was characterized by a local edema and erythema) was elicited as early as the fifth and as late as the thirteenth day of the disease (two days before and six days after the crisis, respectively). In children it was demonstrable about the same time, but was negative immediately, or one or two days after the crisis. Patients recovering by lysis reacted as late as the thirty-second day. In general, the test was positive in all active cases, that is, throughout the toxemia. Cases earlier than the fifth day of the disease were not, at the time, available. Control patients, suffering with either bronchopneumonia or other acute or chronic infections not of pneumococcic origin, as well as healthy adults and children, did not react.

Further tests should be made with the pneumonic lung extract and with other organisms and their toxins.

VIII. QUININ AND COLE'S PNEUMOTOXIN

Allusion has been made to certain experiments with Cole's pneumotoxin. To explain their object I must digress for a moment to clinical phenomena.

Two facts stand out in the clinical course of lobar pneumonia when large doses of quinin are used in treatment. One is the extreme tolerance of the patient to the drug. Doses that in health would produce profound quinin intoxication, rarely cause even *tinnitus aurium*. In more than 1,500 cases personally thus treated, I have never seen visual disturbance, although two instances of transient amblyopia have been reported to me by one of my pupils. (I am speaking of quinin salts, please note, not optochin.) Even persons ordinarily very susceptible to quinin poisoning may not only bear, but be benefited by, large doses of the drug, when they have pneumonia. I have seen six such instances.

The other fact to be placed in apposition to this extreme quinin tolerance in lobar pneumonia is the absence of crisis—the almost invariable termination by lysis—in cases thus treated.

Taken together, these facts seem to point to an interaction between quinin and the pneumonia poisons, or one or more of them, mutually inhibitive. But of what nature? Is it antidotal or antagonistic? Is it a chemical neutralization, simple or complex—whether such as exists between acid and alkali or such as we suppose to exist between a toxin and its specific antitoxin? Is it a physical interference? Is it a physiologic, or rather a pharmacologic, opposition? The questions are more easily asked than answered.

In the attempt to make a beginning toward the solution of this problem, Dr. Weiss and I tried several rather crude methods, utilizing both Cole's pneumotoxin and the pneumonic lung extract (or exudate poison) demonstrated by the work of our group. Our results were chiefly negative. We could not demonstrate, either *in vitro* or *in vivo,* any chemical or physical neutralization as the result of mixing the poisons and the drug. We did show, however, *in vitro,* certain interferences by quinin salts with the hemolytic action of Cole's pneumotoxin, as well as with that of the pneumonic lung extract, as already mentioned. The results are of course complicated by the fact that quinin is in itself hemolytic. The apparent paradox is revealed that the special salts of quinin which by virtue of their physical qualities are, themselves, most hemolytic, are likewise most inhibitive to the pneumotoxin hemolysis. But is not this an indication, at least, of the mutual interference we seek?

Further study experimentally, with certain sources of error and confusion eliminated, and a more complete analysis of results, is necessary, before we can offer any definite conclusion. The observation is suggestive, but at present suggestive only.

Cole's pneumotoxin was also used with quinin *in vivo* in the same way that we had previously used virulent cultures of pneumococci and now used the pneumonic lung extract, namely, as poison and antidote. Quinin salts were found to prolong life in animals poisoned with pneumotoxin.

The general results of the three series of experiments may here be noted together.

1. Mice and rabbits injected with lethal cultures of pneumococci and receiving no quinin died in from forty-eight to seventy-two hours. Those so injected, but intravenously or intramuscularly treated before or after the inoculation with various cinchona derivatives and especially with quinin and urea hydrochlorid, survived for from four to six days.

2. Guinea-pigs poisoned with pneumotoxin and receiving no quinin, died in a few minutes; but those previously injected with quinin salts survived for some twenty-four hours or longer.

3. Guinea-pigs and rabbits poisoned with the substance extracted from pneumonic lungs and not receiving quinin, died in from one to two minutes; but those previously injected with quinin salts survived for from two to six days.

I do not wish to overstress these observations. They need repetition, criticism, and, I trust, confirmation, by others. Meanwhile, I refer the interested student to the detailed experiments and tabulations in the original papers in the *Journal of Infectious Diseases,* so that he may himself estimate the evidence which appears to us to demonstrate that there is at least some virtue in quinin against the germ and toxemia of pneumonia, and thus to confirm the longstanding clinical tradition, especially emphasized in recent times by Juergensen, DaCosta, Bartholow, Gibson, Aufrecht and Petzold, Henry, Galbraith and myself.

IX. THE RABBIT AS AN "EXPERIMENTAL" ANIMAL

Incidently we found (as, indeed, other observers have noted) that the rabbit, so far as quinin is concerned, and in a less degree also as regards bacterin protection, is not a good animal for experimental purposes. He is very susceptible to the pneumococcus, and by some body mechanism—the liver, it has been said—destroys quinin so rapidly that even while being fed with it, his blood serum quickly fails to show destructive power against the pneumococcus. This series of experiments, confirmatory of the observations of others, was carried out by Dr. Weiss. The stimulation of phagocytosis and the partial protection against the pneumonia poisons and pneumococcus septicemia which quinin gives to rabbits, is therefore quite remarkable; and Dr. Heist's success in protecting rabbits by bacterination against subsequent inoculation with virulent pneumococci, and especially Type III, deserves repeated emphasis.

X. QUININ AS A PROPHYLACTIC

As already mentioned, all cinchona derivatives, optochin preeminently, and quinin dihydrobromid and hydrobromid next, have a distinct bacteriotropism, as it is called, toward the pneumococcus. They are the most potent germicides that we possess against it. This may be a partial explanation of the therapeutic value of quinin in human pneumonias, but it is only partial. The antitoxemic properties, of which we have thus far only a partial explanation, are far more important.

But these germicidal actions of quinin compounds are quite important in prophylaxis. This phase of our investigation, so far as it is susceptible of laboratory proof, was entrusted to Dr. Edward Steinfield, under the direction of Dr. Kolmer and myself. Kolmer and Steinfield showed that solutions of various cinchonics in as weak dilution as 1: 10,000 will disinfect, in the test tube, suptum and mouth secretions from pneumonia patients, from convalescents, and from healthy persons harboring the pneumococci in their mouths and throats. The menstruum they employed (in dilution 1: 10) called liquor thymolis[3] at the Philadelphia Polyclinic, was also slightly pneumococcicidal and more actively germicidal to other organisms of the mouth and throat. Used as a mouth wash, however, neither with nor without quinin, did it keep the mouth sterile; although there is reason to believe that the quinin solution will aid in preventing the rapid proliferation of virulent pneumococci gaining access to the mouths of nurses and physicians in attendance on pneumonia patients, and also in a measure reduce the extent and duration of pneumococcal growth in the mouths of convalescents and healthy "carriers."

Later, I had Dr. Steinfield make, at the Jewish Hospital, some experiments with various mixtures prepared for use as gargles and mouth washes, in the attempt to find some pharmaceutic expedient by which a more concentrated, and hence more effective, preventive solution might be prepared; and made—I will not say palatable—but, at least, tolerable to the palate. These mixtures were tested by cultural methods both on pure cultures of Types I, II and III and on sputum containing virulent pneumococci.

The method of study was as follows: In each of a series of sterile test tubes were placed 0.5 c.c. of a cinchonic solution and 0.5 c.c. of a suitable dilution of pneumococcus culture (usually 1: 2) mixed with any available sputum, or 0.5 c.c. of sputum of a pneumonia patient. These were mixed and incubated at 37.5 C. for half an hour. At the expiration of this period a platinum loopful from each tube was plated into 10 c.c. of glucose agar or blood agar. The virulence of the cultures used was such that 0.000001 c.c. was fatal for white mice in twenty-four to forty-eight hours after intraperitoneal injection. Cultures were also taken from the mouths and throats of patients before and after using the gargles and mouth washes, incubated and studied.

A number of solutions (sixteen in all) were furnished us by Dr. E. Fullerton Cook of the College of Pharmacy. The formulas of these will be published in detail in the *Journal of the Pharmaceutical Association.* Here, two only will be mentioned by way of illustration.

1. The compound guaiac gargle used by Dr. J. Solis Cohen for many years in the treatment of acute tonsillitis, contains cinchona in the form of compound tincture. The formula has been included in the last edition of the National Formulary. It can be improved, as to taste, by the use of infusion of coca instead of water. This was used alone, and with the addition of quinin and urea hydrochlorid 1: 100, 1: 200, 1: 500 and 1: 1,000.

When the guaiac gargle was used alone, in various tests, from 17 to 182 colonies developed, against 540 to 4,860 colonies in the control. The addition of quinin and urea hydrochlorid 1: 1,000 prevented any growth at all. The quinin taste was fairly well masked, but not as well as with the solution next to be mentioned.

2. With a solution containing quinin and urea hydrochlorid, 0.5 gm.; phenol, 0.5 gm.; glycerin, 20 mils; oil of peppermint, 2 drops; water to make 100 mils; that is to say, 1: 200 each of the quinin compound and phenol, no colonies whatever of either pneumococcus or streptococcus were developed. This solution is fairly palatable.

I have accordingly settled on a combination of the two solutions, adding 1 grain each of menthol and phenol and one-half dram, more or less, of glycerin, to the ounce of compound guaiac gargle, and employing infusion of coca as the menstruum. The advantage is that the honey of the compound guaiac gargle retains the solution longer in the throat, makes it stick to the mucous membranes, and does not retard its germicidal effect, as does—for example—acacia. The phenol destroys the bacterial flora other than pneumococci. The menthol and guaiac aid, if in no other manner, by increasing the palatability, or at least, decreasing the unpalatability. That is polypharmacy, to be sure, but of the sort that is intelligent and useful. It is the selection of drugs, not their number, which is important. We may give a patient but one drug, and yet do him no good if that drug is not well chosen, or harm him if it is unnecessary. We may give him several drugs and have "one fight with the other," and the whole do harm. Or we may use several drugs, of which each and every one has a definite and necessary pharmaceutic or therapeutic object, and probably do more good with the mixture than with any one alone. Let us not be scared by the word, polypharmacy; but use no drug at all, or one drug, or many drugs, as experience and reason may dictate. And while on the subject of drugs, let me step for a minute beyond the strict limits of the title of this paper, for a clinical therapeutic comment.

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[3] Benzoic acid, 64 grains; boric acid, 128 grains; thymol and eucalyptol, each 16 grains, oil of eucalyptus, oil of wintergreen, oil of monarda, each 4 drops; alcohol and glycerin, each 4 ounces; water to make 6 ounces.

THE DEFINITE METHOD OF TREATMENT

Pneumonia patients are benefited by quinin, as clinical and experimental evidence now agree. We can do more good if we give them quinin plus digitalis, than if we give them quinin alone; and still more good with quinin plus digitalis, plus pituitrin, than if we leave out the pituitrin.

Although the object of treatment is not antipyretic (except as diminution of fever indicates diminution of toxemia), the patient's temperature is an approximate index to the quinin effect, and the dose and frequency may be governed accordingly. Pituitrin is used to keep up systolic blood pressure and prevent paralytic distention of the stomach and intestines. The indication for pushing digitalis is found in the relation of diastolic blood pressure to respiration frequency, but the drug should be used in moderate doses from the time the diagnosis is made, in order to sensitize (digitalize) the neuromuscular apparatus of the heart. Otherwise the effect is too tardy, when the emergency arises.

All of these drugs act best when injected under the skin, into a muscle or into a vein. When the injection methods are not practicable, both quinin and digitalis may be given with great benefit, by the mouth; pituitrin, however, loses much of its value when so given. We can further help the patient by giving freely and frequently an alkaline-saline drink or artificial mineral water, containing a chlorid and two or more alkaline bases, for example, sodium or potassium or ammonium chlorid, and sodium phosphate or sodium, ammonium or potassium citrate each 0.3 gm. (5 grains) with sodium bicarbonate 0.6 gm. (10 grains) or more, to a tumblerful (6 to 8 ounces) of water; or by using an alkaline-saline solution or even physiologic salt solution by skin or bowel. The object is to bring up the daily urinary excretion to 3, or at least 2 liters (quarts), and to keep the urine neutral in reaction to litmus. Necessarily—and it almost seems needless to say it—there must be individualization in the use of these or any other measures, including the bacterins and serums.

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DISCUSSION

Dr. David Riesman, Philadelphia: In the close cooperation of the laboratory worker and the clinician we have the best method for making progress in medicine. Each receives encouragement, criticism and inspiration from the other. What we have just heard illustrates this point and shows what can be done by well-trained laboratory men under the guidance of a clinician of large experience. In no other disease is such cooperation more opportune and more desirable than in pneumonia, which is by all odds the most fatal, the most serious infectious disease that we have to deal with in this climate.

In 1916 pneumonia killed 200 more people in Philadelphia than tuberculosis of the lungs and, if the laity do not heed the advice so often given by the department of health, state and municipal, and by physicians, we shall have, I fear, a very serious increase in the number of cases of pneumonia this winter and in the number of deaths from this disease. Many methods and drugs have been proposed for the treatment of pneumonia, and if we were to depend on the statistics of those who propose them, we should have to admit that we have for pneumonia, not one specific, but a great many, which is an inherent contradiction. Statistics from hospital practice, with rare exceptions, can not be used for definite conclusions when it comes to a disease of the character of pneumonia.

The mobilization of the man power of the country for war, has, however, given us an opportunity of testing out treatments under such ideal methods of control that the data obtained will have transcendent value. And yet, even then the statistics and experience must be subjected to the closest scrutiny. At Camp Dodge there occurred between September of last year and March of this year, 276 pneumonia cases with a mortality of 11 per cent. Then about March 20 came a sudden change, due to the advent of the streptococcus at the camp. Among 342 cases there was a mortality of about 32.5 per cent.; three times as large as in the six months before. Now, had any special form of treatment been employed in the first series, we can easily see what false conclusions might have been drawn from the very good results, when the good results depended, not on the treatment which was without any special therapeutic significance, but on the mildness of the infection.

In one of the New England camps there occurred an outbreak of pneumonia with a very low mortality. Those in charge were much gratified by the results but tried to conceal their pride as best they could. Then there was an influx of negro troops from the South, and though the type of pneumonia did not change, the mortality leaped to alarming proportions. Racial differences must, therefore, be taken into account. Furthermore, as Colonel Russell has pointed out, there is a difference in susceptibility of men from the cities and those from the rural districts. Those from the city are decidedly more immune. There is, moreover, a difference in the susceptibility of persons coming from the North and those coming from the South. We know that the micro-organisms themselves, show differences at different times and at different periods in the course of the same outbreak. The germ grows in virulence by what it feeds on. All these and other factors must be considered before we can say that a particular form of treatment is of paramount value.

With regard to quinin, I am sorry to say that I cannot feel that it is a specific. It certainly is not in the sense in which it is in malaria, or mercury and arsphenamin are in syphilis, or emetin in dysentery. And the same thing holds true of the derivatives of quinin. With regard to serums, we know that their present value is restricted to one type of pneumococcus infection.

I believe that the pneumonia problem must be attacked in another way, from the point of view of prevention, rather than from that of treatment. We were wont to think that nearly everybody had the pneumococcus in his mouth and therefore there was no use in protecting ourselves against a germ we already had within us. The work done in the Rockefeller Institute and elsewhere has shown that the real pneumococcus organism is rarely found in healthy mouths, unless the individuals have been in actual contact with pneumonia cases. That is to my mind, from the standpoint of the sanitarian and the physician, one of the most important discoveries in the whole pneumonia question. If we succeed, even in a modest way, in preventing the transmission of the pneumococcus from the sick to the well, we shall do a great deal toward lessening the incidence of pneumonia. As in the case of diphtheria, so in pneumonia, healthy carriers may spread the disease.

We are, I believe, on the threshhold of an era in pneumonia that has been passed through in the case of smallpox and of typhoid fever; we shall learn to prevent pneumonia rather than to cure it.

Cecil and Austin vaccinated over 12,000 Types I, II and III, and not a single case of pneumonia of these types occurred among those vaccinated. This is a tremendously important fact, and I believe that by working along this line we shall find that pneumonia will eventually be as rare as typhoid fever is today. In 1906, we had in Philadelphia, over 1,000 deaths from typhoid fever; in 1917, with a much larger population, there were 108.

Dr. M. Howard Fussell, Philadelphia: Did I understand Dr. Cohen to say that the saliva from the mouth of an individual who had used a gargle of quinin solution was sterile, or did he say that the sputum from the lungs was sterile from an individual who used the quinin solution?

Dr. George D. Heist, Philadelphia: I have had the pleasure of working under Dr. Cohen for three years with pneumonia patients. He has been very kind in his reference to us younger men. I think you will all know from whom the inspiration comes in our work and that to Dr. Solis Cohen is due the credit of our researches.

Last winter a number of patients at the different hospitals were given different salts of quinin in different amounts, and quinin and urea hydrochlorid and dihydrobromid, by the mouth, intravenously and intramuscularly. Every day at varying periods we took samples of blood from the veins of those who were receiving the quinin, and then after the attack was over we took samples again. When the case was closed these samples were collected and the serum drawn off and equal quantities of these serums, taken at different periods in the disease, were measured out and equal quantities of young culture of pneumococci added to each tube. Then a small quantity of serum was taken from each tube and the number of pneumococci counted by the plate method. We then incubated the mixture of serum and pneumococci for twenty-four hours. At the end of that time we again drew out a quantity of serum as before and plated this, and endeavored to find how many pneumococci had remained alive, and whether they had grown or increased greatly in number.

We found that the serum of one man who had received 5 and sometimes 10 grains of the dihydrobromid every three hours over a period of a number of days killed pneumococci with great regularity after an exposure for twenty-four hours. The quinin was administered by mouth in this case. In other cases the serum did not sterilize the pneumococci, but very decidedly inhibited their growth; the plates showed few colonies instead of the several hundred seen in the controls. We found that this bactericidal element in the serum was proportionate to the quantity of quinin which the patient had received. If he received it regularly his blood was bactericidal to the pneumococcus. If he received it only when his temperature was above 102 the bactericidal activity was more or less irregular. The dihydrobromid was the most active salt. The serums of patients who had recovered from their attacks, and of those who got no quinin, showed no bactericidal action whatever.

Dr. Solis Cohen has pointed out to us for a good many years that the patient with pneumonia does not feel the quinin which he receives as does the patient who does not have pneumonia, or a normal person. I must confess that I was a little skeptical of this when I began the work, and last winter I questioned each patient very closely every day, inquiring whether he had any ringing in the ears. Without exception they said, no. One man said he had some at first but that it passed over. He had received very small quantities of quinin. It seemed that he had an idiosyncrasy for the drug.

Dr. Cohen, closing: Replying to Dr. Fussell's query, I will read what had to be omitted in a ten-minute talk, the exact technic of the experiments with sputum, mouth cultures and solutions of cinchonics (reading). That, then, was the test for sputum; not that the patient used the gargle and the sputum from the lungs then was sterile, but that these solutions, even in the presence of tenacious sputum, were capable of sterilizing the virulent cultures in the test tube. In the other test the cultures were taken from the mouths and throats of patients, some with and some without pneumonia.

We were simply testing the bactericidal action of the various solutions under given conditions. Examination of the mouth and throat secretions showed active bacteria—cultures developed. The patients would then use a gargle and the cultures would not develop. This was done in several ways, with and without admixture of saliva and our conclusion was always the same, that an appropriate spray or gargle will sterilize temporarily the mouth and upper throat. It will not, of course, affect the organisms in the bronchi or alveoli. The question arises whether inhalations or insufflations or instillations or spraying of the trachea and bronchi might not give good results. If this could be done under conditions in which we could be sure it did no harm, it probably would disinfect as far as the spray or vapor or solution could penetrate.

The points made by Dr. Riesman are good, except as to one particular phrase that he uses. Quinin, so far as I know, has never been put forth as a "specific" in pneumonia. In my own writings I have indeed been very careful to say that it is not a specific. But that does not alter or lessen its usefulness. It is of definite usefulness and special advantage. If I remember correctly the language that I have commonly used, it is this: "Midway between the futility of the expectant treatment and the effective specificity of appropriate serums and bacterins, is the definite method of treatment by quinin, digitalis and pressor agents, especially pituitary preparations." It is therefore the use of quinin in a definite way, for a definite purpose, that is advocated. Those who have not studied at the bedside its use in this definite way are scarcely in a position to pass judgment on it. In my own experience and observation over many years, no other medicinal treatment is equal to it; the expectant treatment most certainly not. This experience and observation includes private practice, direct and consulting, as well as several hospitals having different classes of patients; thus both sexes, all ages, all colors, all races, "all sorts and conditions of men"—and women and children. It extends over many, many years—and the year through—therefore, mild and severe epidemics, mixed and unmixed infections, and all sorts of meteorologic conditions, as well as all sorts of environments. The experience is uniform. Under the same conditions, quinin proves its superiority over expectancy, not only by a greatly reduced mortality, but by the greater comfort of the patients, even in fatal cases. But quinin alone does not constitute the definite method. Digitalis and pituitrin (or other pressor agent), and the alkaline-saline fluids must also be used according to the indications laid down. This synthesis constitutes my personal contribution to the therapy of pneumonia—quinin was used before I was born—and digitalis too—although not in the definite way I have indicated. Bacterins also have their place; and oxygen, atropin, musk, camphor, strychnin, creosote, etc., may be used when necessary for special indications in a special patient. So, too, venesection may be done if necessary. In other words, whatever else is needed—be it much or nothing—is done. Bacterins and serums may properly be used in supplement of one another, and quinin in supplement to either or both. I have sufficient experience with the double and triple associations to say that they present no therapeutic incompatibility. Of course, the rigidity of experimental conditions and the exactitude of scientific demonstration are lacking. But the patient will not object to that, if it saves his life. He does not care if it is specific or nonspecific treatment, if only he gets well, and more patients get well with quinin than without it. I affirm this without reserve. Only the other day I ran across a paper I had written in 1887—two years before the general recognition of the pandemic of influenza of that period—on "Catarrhal Fever and Its Treatment." In that paper I said that to the classic paradox of DaCosta, that "influenza is the least fatal and the most fatal of all diseases" may be added another paradox—that it is the easiest and the most difficult of diagnosis. That, I think, remains true today. I also said that in the treatment of the pneumonia of influenza the use of quinin is indispensable; so that for thirty-one years I have been practicing this treatment; though it is only within the last fifteen years that I have been urging it in season and out, like the voice of one crying in the wilderness, to arouse the conscience of the profession.

1525 Walnut Street.

SELECTIONS

AN APPEAL FOR NATIONAL MEDICAL RECIPROCITY

In the interest of the morale of the medical officers who have been left in the service since the signing of the armistice and as an act of simple justice to all medical men who have abandoned their work in civil life to serve in the Army during the war, an effort should be made through the governors of the several states or otherwise to secure for the ones who are graduates of reputable medical colleges and who have made good records the right to practice in any state in the Union without examinations. This suggestion is supported by the following:

(A) The object of all medical practice laws is to protect the public from ignorant and vicious practitioners of medicine. No state law regulating the practice of medicine is passed on any other theory, nor for any other purpose. The graduates of reputable medical schools selected for Army service, and especially those who have made good records in the Army, meet all the requirements demanded by all state laws governing the practice of medicine.

(B) Practically all states grant to medical men in the Army and Navy the right to practice in civil communities while in the service. If these men meet the requirements while in the Army and Navy, they certainly meet the requirements when rétired to civil life.

(C) Many medical men have been made proficient in special branches of medicine during the war and should be given opportunity to select new locations in which to begin practice as specialists.

(D) Some men have in addition to the loss of their civil practices been broken in health and will find it necessary to begin work again in different climates and environments.

(E) Many having lost their practices at home will find it easier to begin life all over again in new localities. This is particularly true of those who have been much reduced in financial standing. They should be spared the humiliation of having to begin at the bottom and to compete on unequal terms with old competitors who have profited by their absence from home.

(F) The last men to be released from the service will be the most in need of encouragement and help in every possible way. During the war they were regarded by their patients as patriotic men, making sacrifices during a great national emergency. Now that the war is over they are thought to be remaining in the Army as a matter of choice and are therefore more often censured than praised. The men first out of service will very naturally get the best of whatever practice is recovered by the returning medical officers.—*The Camouflage.*

IS THERE A MEDICAL TRUST IN THE UNITED STATES?

The *Medico-Legal Journal* in its issue of November-December, 1918, contains a long letter by Carl Scheffel, Ph.B., M.D., entitled, "Is There a Medical Trust in the United States?" The doctor reviews the definition of what constitutes a repressive monopoly and then proceeds to show that the American Medical Association by virtue of its constitution and through such subdivisions as the Council of Pharmacy and Chemistry and the Council of Medical Education, is a repressive monopoly that prevents the propagation of free ideas, that keeps worthy young men from the privilege of medical practice by compelling prohibitive requirements in education and that endeavors to control the production of pharmaceutical products through the approval or condemnation of its Council on Drugs and Chemicals. Indeed, he more than hints that those preparations that pay high advertising rates are looked on with favor, while those that do not are condemned.

The only reason why one should notice an effusion of this kind is that it constitutes a dangerous propaganda and is the stuff which has been instrumental in drenching Russia with its best blood. If we read the doctor's letter aright we interpret it to mean that every human being would be permitted to practice healing if he chooses to assume the responsibility for the life or death of any other human being, that he should be privileged to offer for sale (for even the doctor will not contend that pharmaceuticals are offered to the public on a charitable basis), any nostrum that promises to bring him a profit and that the man's inclination should be the only guide and the only restraint in his dealings with the public. When the doctor claims that there is a medical trust, he is right—there is a medical trust and admittance to that trust demands that a man shall have brains enough to mingle on an equality with every other man of brains. So far as we know $5 and brains is all that stands between any applicant and the right to become a participant in the great body of physicians who today stand as having offered more of their numbers to their country than any other calling, who today are recognized as having saved more of the country's youth than all other influences put together and who are known as the most self-sacrificing class of men that humanity can boast of. It is barely possible that even Dr. Scheffel might be able to scrape together the two qualifications that would make him eligible for membership in the medical trust. Possibly the doctor could borrow the $5.—H. G. W.—Editorial, *Long Island Medical Journal,* February, 1919.

IMPORTANCE OF BIRTH REGISTRATION

We've registered our incomes, just as the laws demand;
We've registered our autos, our houses and our land;
We've registered our motor boats, at Uncle Samuel's call,
Then why not register the most important thing of all?

We've registered our incomes, our horses and our mules;
We've listed all our property according to the rules;
We've counted all our country's wealth, cattle, wheat and corn,
But no one knows how many future citizens are born.

Now since we've inventoried 'most every thing on earth,
Why don't we take some notice of a human being's birth?
And while we count each side of beef and every ton of coal,
Why don't we count that priceless thing, a new-born human soul?
—North Dakota State Board of Health.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

WALTER F. DONALDSON, M.D., SECRETARY, 8103 Jenkins Arcade Building, Pittsburgh, Pa.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Article II of the Constitution sets forth the purpose of our society in the following well chosen words:

"The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the State of Pennsylvania; to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more useful to the public in the prevention and management of disease and in prolonging and adding comfort to life."

Organized in 1848 this Society has by the devoted efforts of countless hundreds and thousands of its officers and members continuously carried on the efforts expressed in the above article.

HARRISBURG SESSION, SEPT. 22-25, 1919

"Encourage the young men to attend the annual meetings of the State Society, and thus have them form the habit. The most pleasant recollections of my life cluster about the friends made during these thirty years of society life. This annual meeting is one of my outings, and each year is becoming more and more a pleasant part of my life. It is here, young man, you may meet the brightest and best men of the state, and friendships formed here are as lasting as life. Here you meet and listen to those who write our books, and take notice, these gentlemen are regular attendants of the society's meetings, and think it not beneath them to take part in its work. Here you meet and learn to love the elder generation of medical men who so well laid the foundations of this great society."—Presidential address, John B. Donaldson, M.D., 1911.

OUR OPPONENTS

The support of Compulsory Health Insurance will continue to come from two dangerous groups; namely,

1. Uplifting theorists with paid propagandists, and

2. Political profiteers with paid investigators.

The first group capitalize to the utmost the well-known power of the affirmative statement and its psychic effect on the sympathetic amateur uplifter; for example, the oft repeated but seldom refuted false statement that "Sickness is the cause of poverty." How many among the unthinking stop to realize that the reverse is true, that poverty, meaning poor pay, long hours and poor housing, is in reality the cause of most sickness.

The second group create legislative commissions that employ investigators, who from the first endeavor only to prove the necessity for that which they should endeavor to study from every angle. By reason of a multiplicity of organizations, agencies and publications, we Americans do so much group thinking that we are most often swayed by propaganda that plays on our emotions. Let us return to the days of individual study and the appeal to reason.

"IS IT MORE HUMANITARIAN TO INDEMNIFY OR TO PPREVENT?"

The report of the special committee on social insurance of the Wisconsin legislature, published Jan. 1, 1919, indicates that this commission did not begin its work with the determination to affirm a theory. It undertook its work with an open mind prepared to study the proposition from every angle and to respect the opinion of any individual or group that expressed intelligence for or against compulsory health insurance.

A very few of the highest lights from the Wisconsin report are herewith presented.

1. The state has made ample provision for the care of its dependents, defectives and derelicts.

2. Cost per annum estimated at $30,000,000, exceeding in cost the entire present expense of state government.

3. Labor is not at this time sufficiently informed either to favor or oppose compulsory health insurance.

4. Employers claim that working conditions are steadily improving, welfare work among employees is in its infancy, and that voluntary thrift, establishment and group insurance existent sufficiently provide the worker against hardship from sickness.

5. Physicians assert that compulsory health insurance is applied to symptoms, rather than to causes, furnishes relief only to those *steadily employed,* leads to malingering, provides inferior grade of medical service, and that sickness benefits will never take the place of health education and sickness preventive measures. The cost of medical care is not now beyond the means of the *steadily employed,* being to a large extent based on their ability to pay.

6. Christian Scientists oppose compulsory health insurance because their followers forced to contribute toward the fund would be paying for something of no value to them.

CONCLUSIONS

1. One million dollars spent for preventive measures will serve the cause of public health in the state more effectively than twenty times that sum in an experimental curative; therefore, before adopting such legislation with its cumbersome and coercive administrative features, existing preventive agencies should be extended and made more efficient.

2. Occupational diseases should be included in the Workmen's Compensation Act.

3. Adopt a comprehensive housing plan.

4. More liberal appropriations for State Board of Health and encouragement of same on part of local boards of health.

The Wisconsin publication also contains a minority report favoring compulsory health insurance and an appendix containing the status of health insurance in twenty-three states.

You should be a student on this subject. Write, enclosing six cents in postage, to H. P. Greeley, 112 Hamilton Street, Madison, Wis.

THE PENNSYLVANIA MEDICAL LEGISLATIVE CONFERENCE

The gentlemen representing the medical profession in the interests of health legislation have given freely of their time and talents. We can never fully repay them, but we should support them morally and financially. It costs approximately $300 to mail a circular letter to the physicians of Pennsylvania. Actual traveling expenses and other expenses incident to the work in Harrisburg are heavy. The organization is permanent and its personnel entirely reliable.

Having secured the enactment and enforcement of all the just medical laws of this commonwealth, it is manifestly unfair that we alone should be on guard against their annulment, but, until public opinion defends public health, we must stand between the latter and the many reactionary laws introduced by faddists and drugless therapists.

If you have not yet contributed you should at once remit at least $1.00 to Dr. John B. Lowman, 114 Market Street, Johnstown, Pa.

EFFICIENCY

Seventy per cent. of our component county societies have to date (April 23) paid in full the state *per capita* tax for their entire membership.

We are now preparing for the June issue of The Pennsylvania Medical Journal the annual supplement containing the lists of officers and members of the component county societies. Lists submitted to date to secretaries for correction have been returned with remarkable promptness. These very commendable evidences of efficiency on the part of secretaries are herewith gratefully acknowledged and will of course be apparent to all in the comparative showing made in each county society's membership in the June supplement.

Efficiency is a year round virtue and should be individual. Have you been faithful? Having paid your dues promptly have you attended meetings, or have you introduced a new member?

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to April 24:

Allegheny: *New Member*—J. M. Douthett, Pittsburgh. *Deaths*—James H. Wright (Buffalo Med. Sch., '78) in Pittsburgh, March 25, aged 69; Frederick A. Schlanger (Univ. of Pittsburgh, '09) in Pittsburgh, April 5, aged 30. *Removal*—William M. Barnette from Chambersburg to Harrisburg; Louis Lasday from Cincinnati, Ohio, to Pittsburgh; William T. Hall from New York to Hammond, Ind.

Armstrong: *New Member*—James H. Hargreaves, Kelly Station.

Beaver: *New Members*—Percy K. Heller, Freedom; Ira C. Hoffman, Monaca. *Death*—Russell C. Parson, Captain, M. R. C., (Jeff. Med. Coll., '14) of Ambridge, at Le Banle, France, March 1, aged 27, from lethargic encephalitis.

Berks: *New Members*—Wellington D. Griesemer, John H. Rorke, Charles J. Dietrick, Reading.

Blair: *New Members*—Hugh B. Morrow, J. Clarence Frye (by transfer from Jefferson County Society), Williamsburg. *Death*—Thomas M. Morrow (Baltimore Med. Coll., '98) in Altoona recently, aged 52.

Bucks: *Removal*—Russell Richardson from Newtown to Philadelphia; William H. M. Imhoff from Willow Grove to Norristown.

Butler: *New Member*—Arthur I. Stewart, Harmony. *Removal*—W. T. Lowry from Prospect to Sharon (Mercer County).

Chester: *New Member*—Howard Mellor, R. D., West Chester.

Clearfield: *New Member*—George C. Jenkins, Curwensville. *Removal*—Bradley H. Hoke from Coalport to Meyersdale (Somerset County); George A. Ricketts from Smithmill to Osceola Mills.

Columbia: *Removal*—George E. Follmer from Orangeville to Bloomsburg.

Delaware: *New Members*—G. Bigelow Mullison, Chester; William W. Poulson, Marcus Hook.

Elk: *New Members*—Joseph E. Madara, Arthur F. Davis, St. Mary's. *Removal*—E. C. Straessley from Elbon to Beaver Falls (Beaver County).

Erie: *New Members*—William K. Andrews, O. A. Allen, Herman C. Galster, Ray H. Luke, Albert H. Bunshaw, Erie; C. W. Page, McKees Rocks (Allegheny County). *Removal*—Edith MacBride from Erie to Sharon (Mercer County).

Fayette: *Removal*—W. B. Crawford from Uniontown to Brownsville.

Huntingdon: *Removals*—Henry Bley from Dudley to East Mauch Chunk (Carbon County); Harry B. McGarrah from Robertsdale to Timblin (Jefferson County).

Indiana: *New Members*—Kim D. Curtis, Claghorn; Charles H. Bee, Marion Center; John H. Baehr, American Hospital, Chicago.

Jefferson: *New Members*—J. M. Kuhns, Ramsaytown; Edgar L. Hughes, Helvetia (Clearfield County).

Juniata: *New Member*—W. H. Horner, Thompsontown.

Lackawanna: *New Members*—G. Catalano, H. W. Shirey, Dunmore; William M. Cress, Clark's Summit; J. P. McGuire, Forest City; James McIntosh, Archbald; S. H. Vorhees, Peckville; J. J. Brennan, L. M. Elsinger, Grace C. McMahon, Scranton.

Lawrence: *Deaths*—David C. Vosler (Univ. of Pittsburgh, '94) in Ellwood City, March 19, aged 49; William J. Davidson (Medico-Chi. Coll., '05) in New Castle, in February, aged 36.

Lebanon: *New Members*—Ulysses G. Risser, Campbelltown; W. Horace Means, John L. Groh, Lebanon. *Removal*—Thomas R. Holland from Lebanon to Philadelphia.

Luzerne: *New Member*—Joseph P. Burke, Pittston. *Death*—John J. Hislop (Captain, M. C.) (Jefferson Med. Coll., '92) in Miner's Mills, March 5, aged 53, from cardiorenal disease.

Lycoming: *New Member*—George W. Muffly, Turbotville (Northumberland County); James E. Hunt of Salladasburg (by transfer from Bucks County Society).

Mercer: *New Member*—Ralph S. Heilman, Sharon. *Removal*—B. E. Mossman, Jr., from Greenville to Youngstown, Ohio.

Montgomery: *Death*—John G. Hersh (Univ. of Pennsylvania, '76) in East Greenville, February 23, aged 66, from bronchopneumonia.

Montour: *New Member*—Robert Keilty, Danville.

Northampton: *New Members* — Frederick B. Snyder, Henry E. Guth, Allentown (Lehigh County). *Death*—P. F. Boyle (Jefferson Med. Coll., '01) suddenly, March 25, aged 55, from heart disease.

Northumberland: *New Members* — James A. Hughes, Hyman H. Peril, Mount Carmel; Sidney Kalloway, Shamokin; Charles F. Campbell, Sunbury.

Perry: *New Member*—Edwin C. Kistler, Blain. *Removal*—Frank Patterson from Pittsburgh to Huntingdon.

Philadelphia: *Removals*—T. B. L. Jordan from Cape Charles, Va., to Renovo (Clinton County); Annie E. Freese from Raleigh, N. C., to Mary McCleten Hospital, Cambridge, N. Y.; Marnetta Vogt from Philadelphia to New York City. *Deaths*—Samuel H. Boyd (Univ. of Pennsylvania, '13) in Base Hospital, Camp Merritt, December 24, aged 30, from valvular heart disease; Walter H. Kremer (Univ. of Pennsylvania, '94) in Philadelphia, March 15, aged 58, following an operation for appendicitis; H. Augustus Wilson (Jefferson Med. Coll., '79) in Philadelphia, April 16, aged 66.

Schuylkill: *New Member*—Henry D. Rentschler, Ringtown.

Somerset: *New Member*—A. M. Uphouse, Hooversville.

Washington: *New Members*—S. N. Dague, Houston; John A. Johnston, Arthur Van E. Donaldson, Canonsburg.

Westmoreland: *Removal*—George Boehm from Arona to Braddock (Allegheny County); John L. Marchand from Central America to Irwin.

York: *Removal*—L. H. Sterner from Porter's Sideling to Hanover.

PAYMENT OF PER CAPITA ASSESSMENT

The *per capita* assessment for the year 1918 has been received from component county societies since March 21, 1919, as follows:

3/28	Northumberland	70	6876	$2.75

The *per capita* assessment for the year 1919 has been received from component county societies since March 21, 1919, as follows:

3/22	Delaware	75–78	2756–2759	$11.00
3/22	Center	25	2760	2.75
3/22	Lackawanna	102–116	2761–2775	41.25
3/22	Elk	14–23	2776–2785	27.50
3/22	Venango	47–50	2786–2789	11.00
3/22	Westmoreland	62–69	2790–2797	22.00
3/22	Perry 1-15, 16 D.R.,	17–20	2798–2817	52.25
3/24	Bucks	63–75	2818–2830	35.75
3/24	Mercer	46–60	2831–2845	41.25
3/24	Somerset	19–20	2846–2847	5.50
3/24	Clinton	15–18	2848–2851	11.00
3/24	Somerset	21	2852	2.75
3/24	Washington	93	2853	2.75

3/25	Delaware	79–86	2854–2861	22.00
3/25	Blair	51–76	2862–2887	71.50
3/25	Venango	51	2888	2.75
3/26	Delaware	87–88	2889–2890	5.50
3/26	Columbia	35–36	2891–2892	5.50
3/26	Washington	94–95	2893–2894	5.50
3/26	Lancaster	97–112	2895–2910	44.00
3/26	Allegheny	335–479	2911–3055	398.75
3/27	Venango	52	3056	2.75
3/27	Potter	10–11	3057–3058	5.50
3/27	Indiana	1–56	3059–3114	154.00
3/27	Lawrence	2–15, 17–29	3115–3141	74.25
3/27	Elk	13	3142	2.75
3/27	Lebanon	1–24	3143–3166	66.00
3/27	Center	26	3167	2.75
3/28	Indiana	57	3168	2.75
3/28	Clinton	19–23	3169–3173	13.75
3/28	Somerset	22–23	3174–3175	5.50
3/28	Tioga	1–19	3176–3194	52.25
3/28	Jefferson	1–34	3195–3228	93.50
3/28	Columbia	37–39	3229–3231	8.25
3/28	Lawrence	30–38	3232–3240	24.75
3/28	Snyder	17	3241	2.75
3/28	Northumberland	32–37	3242–3247	16.50
3/28	Dauphin	88–98	3248–3258	30.25
3/28	Washington	96–97	3259–3260	5.50
3/28	Monroe	9–13	3261–3265	13.75
3/28	Westmoreland	70–116	3266–3312	129.25
3/31	Cumberland	25	3313	2.75
3/31	Susquehanna	19	3314	2.75
3/31	Tioga	21–22	3315–3316	5.50
3/31	Monroe	14	3317	2.75
3/31	Bucks	76–87	3318–3329	33.00
3/31	Montgomery	116–132	3330–3346	46.75
3/31	Luzerne	159–169	3347–3357	30.25
3/31	Columbia	40–42	3358–3360	8.25
3/31	Schuylkill	67, 69–71	3361–3364	11.00
3/31	Venango	54–55	3365–3366	5.50
3/31	Clarion	32–33	3367–3368	5.50
3/31	Northumberland	38–55	3369–3386	49.50
3/31	Clearfield	39–55	3387–3403	46.75
3/31	Bradford	44–48	3404–3408	13.75
3/31	Venango	53	3409	2.75
3/31	Lancaster	113–117	3410–3414	13.75
3/31	Washington	98	3415	2.75
3/31	Wayne	27	3416	2.75
3/31	Franklin	49–56	3417–3424	22.00
3/31	Tioga	20	3425	2.75
3/31	Jefferson	35–38	3426–3429	11.00
3/31	Blair	77	3430	2.75
3/31	Cumberland	26–27	3431–3432	5.50
3/31	Somerset	24	3433	2.75
3/31	Butler	45–49	3434–3438	13.75
3/31	Lycoming	73–89	3439–3455	46.75
3/31	Erie	1–30, 32–39, 41–116	3456–3569	313.50
4/1	Lawrence	39–40	3570–3571	5.50
4/1	Schuylkill	72–76	3572–3576	13.75
4/1	Bucks	88	3577	2.75
4/1	Tioga	23	3578	2.75
4/1	Mifflin	28	3579	2.75
4/1	Washington	99	3580	2.75
4/1	Lackawanna	117–125	3581–3589	24.75
4/1	Northampton	97–122	3590–3615	71.50
4/1	Cambria	72–95	3616–3639	66.00
4/1	York	97–105	3640–3648	24.75
4/1	Crawford	24–51	3649–3676	77.00
4/1	Montour	19	3677	2.75
4/1	Cumberland	28–30	3678–3680	8.25
4/1	Jefferson	39–41	3681–3683	8.25
4/1	Schuylkill	77	3684	2.75
4/1	Lancaster	118–123	3685–3690	16.50
4/1	Carbon	1–29	3691–3719	79.75
4/1	Luzerne	170–174	3720–3724	13.75
4/1	Columbia	43–44	3725–3726	5.50
4/1	Berks	73–111	3727–3765	107.25
4/1	Lackawanna	126–133	3766–3773	22.00
4/1	Westmoreland	117–130	3774–3787	38.50
4/1	Allegheny	480–912	3788–4220	1,190.75
4/1	Armstrong	35–48	4221–4234	38.50
4/1	Montour	20	4235	2.75
4/1	Dauphin	99–111	4236–4248	35.75
4/1	Westmoreland	131–132	4249–4250	5.50
4/1	Bedford	1–8	4251–4258	22.00
4/1	Butler	50–51	4259–4260	5.50
4/1	Blair	78	4261	2.75
4/1	Northumberland	56–57	4262–4263	5.50
4/1	Luzerne	175–181	4264–4270	19.25
4/1	Juniata	7	4271	2.75
4/1	Clearfield	56–60	4272–4276	13.75
4/1	Indiana	58	4277	2.75
4/1	Cumberland	31	4278	2.75
4/1	Dauphin	112–115	4279–4282	11.00
4/1	Lebanon	25–26	4283–4284	5.50
4/1	Philadelphia	1–1000	4285–5284	2,750.00
4/1	Monroe	15	5285	2.75
4/1	Lawrence	41–46	5286–5291	16.50
4/1	Cambria	96–99	5292–5295	11.00
4/1	Somerset	25–26	5296–5297	5.50
4/1	Bedford	9	5298	2.75
4/1	Cumberland	32	5299	2.75
4/1	Fayette	101–114	5300–5313	38.50
4/1	Armstrong	49	5314	2.75
4/1	Mercer	61–62	5315–5316	5.50
4/1	Westmoreland	133–135	5317–5319	8.25
4/1	Jefferson	42–44	5320–5322	8.25
4/1	Columbia	45	5323	2.75
4/1	Berks	112–113	5324–5325	5.50
4/1	Mercer	63	5326	2.75
4/1	Bedford	10	5327	2.75
4/1	Dauphin	116–117	5328–5329	5.50
4/1	Allegheny	931, 941–944	5330–5334	13.75
4/1	Wayne	28	5335	2.75
4/1	Beaver	34–40	5336–5342	19.25
4/1	Chester	1–54	5343–5396	148.50
4/1	Bradford	49–50	5397–5398	5.50
4/1	Butler	52	5399	2.75
4/1	Fayette	115–117	5400–5402	8.25
4/1	Washington	100–104	5403–5407	11.00
4/1	Juniata	8	5408	2.75
4/1	Beaver	41–53	5409–5420	35.75
4/1	Bedford	11	5421	2.75
4/1	Armstrong	50–53	5422–5425	11.00
4/1	Bedford	12	5426	2.75
4/1	Berks	45, 114–117	5427–5431	13.75
4/1	Columbia	46	5432	2.75
4/1	York	106–107	5433–5434	5.50
4/1	Luzerne	182–187	5435–5440	16.50
4/1	Bedford	13	5441	2.75
4/1	Westmoreland	138	5442	2.75
4/1	Blair	79–80	5443–5444	5.50
4/1	Luzerne	188–189	5445–5446	5.50
4/1	Clarion	34	5447	2.75
4/1	Westmoreland	136–137	5448–5449	5.50
4/1	Northumberland	58	5450	2.75
4/1	Lehigh	71–75	5451–5455	13.75
4/1	Cumberland	33	5456	2.75
4/1	Lancaster	124	5457	2.75
4/1	Allegheny	949–950	5458–5459	5.50
4/1	Washington	105–106	5460–5461	5.50
4/1	Lackawanna	134–151	5462–5479	49.50
4/1	Schuylkill	78–86	5480–5488	24.75
4/1	Wayne	29	5489	2.75
4/1	Somerset	27	5490	2.75
4/1	Clinton	24	5491	2.75
4/1	Cumberland	34	5492	2.75
4/1	Allegheny	914–930, 932–940 945–948, 951–957	5493–5529	101.75
4/1	Tioga	24	5530	2.75
4/1	Dauphin	118	5531	2.75
4/1	Potter	12	5532	2.75

4/ 1	Elk	24–26	5533–5535	8.25
4/ 1	Juniata	9	5536	2.75
4/ 1	Lycoming	90–95	5537–5542	16.50
4/ 1	Clearfield	61	5543	2.75
4/ 1	Westmoreland	139	5544	2.75
4/ 1	Lebanon	27–36	5545–5554	27.50
4/ 1	Lackawanna	152–155	5555–5558	11.00
4/ 1	Lawrence	47	5559	2.75
4/ 1	Indiana	59	5560	2.75
4/ 1	Westmoreland	140	5561	2.75
4/ 1	Philadelphia	1001–1600	5562–6161	1,650.00
4/ 1	Mercer	64	6162	2.75
4/ 1	Armstrong	54–58	6163–6167	13.75

MEETING OF BOARD OF TRUSTEES

At a special meeting of the Trustees, held in Harrisburg, April 30, Dr. John B. Lowman of Johnstown was chosen treasurer to fill the unexpired term of the lamented Dr. Wagoner.

The report of the special committee to revise the Constitution and By-Laws was made through the Committee on Society Comity and Policy, and the Trustees having discussed same seriatim, made recommendations for action by the 1919 House of Delegates. The full text of the proposed constitution and by-laws will be published in the June number of the Journal.

At this meeting movements of great moment to the state society were discussed and recommended for future action. A resolution was adopted recommending to the House of Delegates that is to convene September 21, 1919, in Harrisburg an increase in the annual each-member tax of the state society from $2.75 to $5.00; also an amendment to Section 3 of Chapter 10 of the by-laws to read, "Each component county medical society shall judge of the qualifications of its own members, but as such societies are the only portals to this society and to the American Medical Association, every reputable and legally licensed physician who is a citizen of the United States shall be entitled to membership."

Results achieved by the Medical Legislative Conference through its chairman, Dr. Van Sickle, have been so satisfactory to the legislators, physicians and the people of this commonwealth that a wider scope to the activities of our society is considered justifiable. Organized medicine, having originated, developed and guarded for fifty years the medical practice acts that protect the public health of this commonwealth, must apparently remain on guard to defend these high standards. Therefore, if physicians must continue to participate in political activities, let us further organize to govern ourselves lest we be misgoverned. Let us correct the abuse of existing medical charities, as well as illegitimate and unethical methods of practice. Let us prepare thoroughly for our fight against state socialism and compulsory health insurance. Two things are essential to the success of these plans: (1) Increased membership and (2) increased dues.

The experience of the officers of the Medical Corps of the United States Army in the world war demonstrated that sects in medicine have practically disappeared. The crying needs for concerted action on the part of the profession further justify the union with us of "every reputable legally licensed physician in Pennsylvania."

Rapidly growing increases in the cost of publishing the Journal and in administering the various activities of the society, together with the proper assumption of financial obligations in keeping with the dignity of our organization completely justify the proposed increase in dues to the state society.

These are every-member propositions: Don't shift your share of the responsibility to your officers; win members for the society; pay promptly your share of expenses; be influential for progress, and organized medicine will soon receive state-wide recognition as the real defender of public health and the true disciple of prevention.

THE UNCONSCIOUS PATIENT

In the presence of two kinds of patients the physician does well to be cautious of his speech, namely, the supposedly moribund and the presumably anesthetized. Because the patient seems unconscious it is by no means certain that he is not aware of much that is taking place about him and that he does not know what is said in his presence.

We think most physicians of experience are, sooner or later, surprised by the keeness of hearing of the patient who is being anesthetized, when to all appearance he has become quite unconscious. This sharpness of sense seems akin to that of the partially deaf whose organs of hearing seem dull enough to the sounds we would have him hear, but are, somehow, exceedingly acute for impressions which we do not anticipate will reach his seat of consciousness. A victim of cerebral disturbance, though incapable of speech or of motion, will sometimes understand everything that is said in his presence. A patient of our acquaintance, apparently unconscious in a seemingly fatal attack of cardiac asthma, recovered to reproach the two physicians in attendance with some remarks which they would gladly have unsaid. The tongue is an unruly member and until a patient is actually dead the tongues of those about him would better be kept under control.—From the *New York Medical Journal.*

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

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Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

MAY, 1919

GEORGE W. WAGONER, M.D.

The death of Dr. George W. Wagoner marks the passing of another of the faithful workers in the Medical Society of the State of Pennsylvania. Dr. Wagoner served organized medicine continuously from 1887 until the time of his death. He joined and was elected secretary of the Cambria County Medical Society in 1887, and has been treasurer of the state society since 1902, excepting the year 1908, when he served as its president. As treasurer, Dr. Wagoner guided well the development of the various funds of the state society, and under his administration all funds of the society were wisely distributed. His counsel, often sought by other officers, was freely given, and his official career will always stand clear and clean-cut, worthy of emulation.

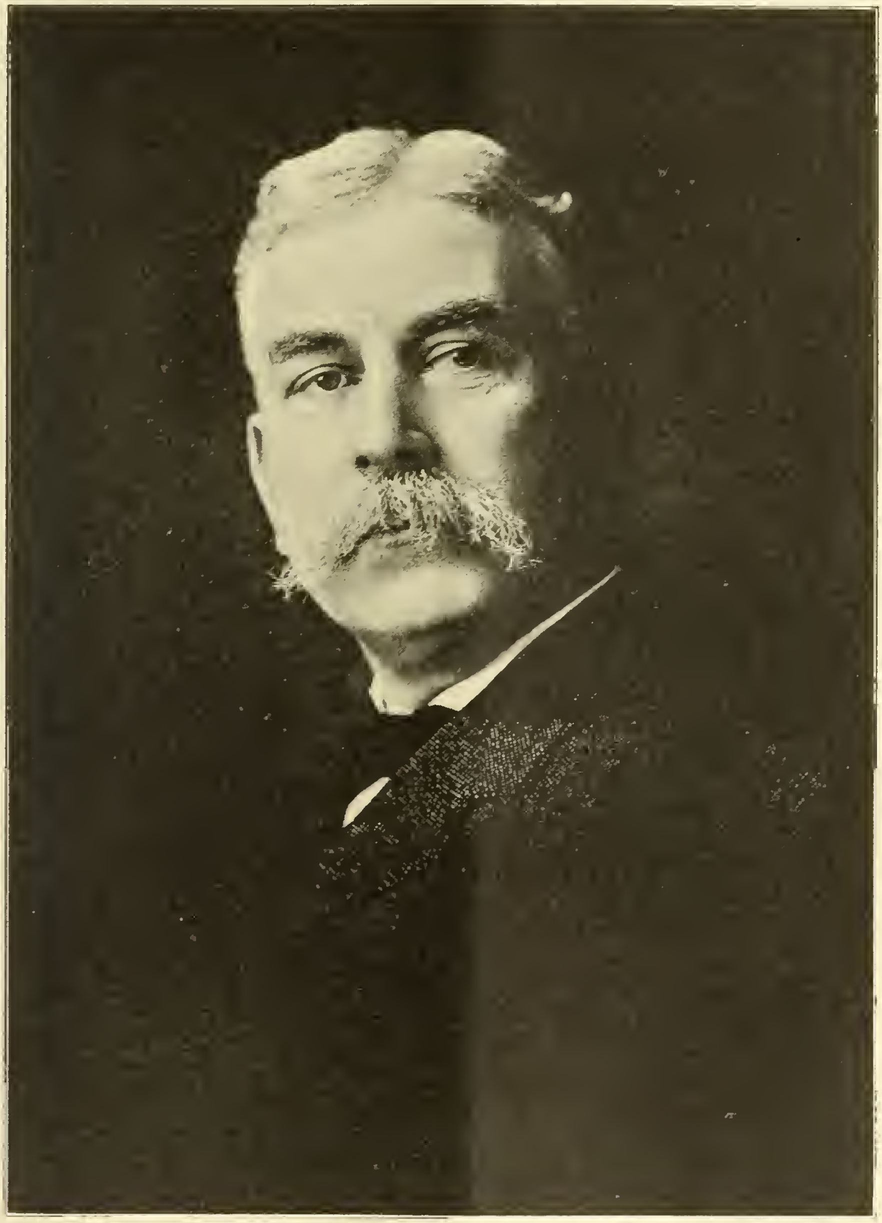
During the period from 1889 to 1909, Dr. Wagoner presented before the state society or prepared for the JOURNAL numerous papers covering a wide range of surgical subjects, as well as subjects relating to public health.

Dr. Wagoner's high standing in his home community was manifoldly manifest at the time of his last illness, and subsequent to his death.

The professional men of Cambria County unite in tribute to his attainments as physician and scholar. Men in all walks freely express their personal loss in the passing of Dr. Wagoner, esteemed alike as physician and citizen, while women and children feelingly testify to the loss of their physician and gentle friend.

Dr. Wagoner graduated from the Medical Department of the Western Reserve University in 1878, and was in active practice in Johnstown until his death. He was a charter member of the Memorial Hospital, secretary of its Board of Managers, and a member of the visiting staff since 1892. He was mayor of Johnstown in 1896. At the time of his death he was a director of the Cambria Library Association and a member of the Bibliophile Society of Boston.

Dr. Wagoner was born in Pittsburgh in 1856. His father, the Reverend George Washington Wagoner, his mother and four sisters perished in the Johnstown flood disaster in 1889. The



GEORGE W. WAGONER, M.D.
Born Feb. 22, 1856. Died April 26, 1919

CAT.

devotion of Dr. Wagoner to relief work following this tragedy endeared him to many medical men gathered from over the state to assist.

Dr. Wagoner is survived by his widow, Mrs. Gertrude Suppes Wagoner, one daughter and two sons. George W., the elder son, interrupted his career as a medical undergraduate to enter the army in 1917. He will resume his studies.

Dr. Wagoner's death, occurring April 26, was sudden and unexpected, and was subsequent to an operation performed April 18 for an acute abdominal condition.

To do today's work today was Dr. Wagoner's method; therefore his work is finished, but the inspiration of his splendid career will survive and be reflected long in the lives of men.

The following lines, written by Dr. Wagoner, were read at his funeral: "I have sought courage and gaiety and the quiet mind. I wish that I might be spared to my friends and sometimes softened to my enemies. In all my innocent endeavors I expected success. By mental effort I sought deliverance from fear and avoided favor, suppressed mean hopes and shunned cheap pleasures. Although conscious of my deficiencies, I was not cast down. I have stumbled along through life, supported by love and the knowledge that I have contributed somewhat to the immortality of the race; and when weary of body and mind, without regret or desire, I shall return to the eternal elements in unconscious rest." W. F. D.

WHAT IS THERAPEUTIC EVIDENCE?

Has the medical profession learned to distinguish between real therapeutic evidence and chance observation? If so, the profession will not be impressed by the following testimonials for a widely exploited proprietary which appeared in a house organ under the caption, "New American Letters of Interest (Physicians Names Omitted for Ethical Reasons)":

> "Rheumatic Affections.—I have been securing remarkable results in rheumatic affections and anchylosis by applying . . . and baking it in at a temperature of 400 degrees.—W. L. S., M.D."
>
> "Contracted Arm, Chronic.—My mother's contracted arm—same chronic—has been greatly relieved by . . . applied daily. I believe by continued applications she will entirely recover. Sincerely yours, Dr. F. J. H., Mo."
>
> "Influenza.—I am anointing nostrils with . . . ointment with *marked success* in the prevention of influenza. Respectfully, P. A. M., M.D., Dowling Park, Florida."
>
> "Neuritis.—I believe I prescribe more of your splendid . . . . preparations than any practitioner here. A case of neuritis of the shoulders I am benefiting with . . . cum Methyl Salicylate. Yours fraternally, W. T. J., M.D., Mo."

The wise physician who reads the above testimonials will ask: Was it the "baking" or the proprietary that produced the "remarkable results" in "rheumatic affections and anchylosis"? Was the "contracted arm, chronic," benefited by time and friction or by the proprietary? How did the physician know that "anointing nostrils" prevents attacks of influenza? Was the methyl salicylate "benefiting" the case of neuritis? Or may the "benefiting" have been associated with the periodicity of the attack?

To those who are inclined to give credit to drugs for naturally occurring events, we offer the following statement by a prominent Philadelphia chemist:

> "For a number of years I acquired a cold sometime during October, which started as a cold in the head, then went down to the throat and bronchial tubes and made me miserable for a good part of the winter, as my throat never got a rest, owing to my constantly being obliged to lecture.
>
> "One morning in October, 1916, I met Mr. ———, president of ———, on the trolley and in casually talking over each other's health, I mentioned my fear that my annual cold would soon arrive and he immediately extolled the cold inoculation bacterin and invited me to stop in the following week and let Dr. ——— give me the first dose. I made the appointment, feeling that I ought to give it a trial in view of the glowing recommendations I had heard. The day I was to have been inoculated I was called to St. Louis and had to cancel the appointment.
>
> "I never did take the inoculation subsequently and *never had a cold during the whole of that winter,* nor indeed one of the same kind since."

Of course the chemist's immunity from colds is not evidence that the vaccine which he was to have received, but didn't, is worthless. It is no evidence at all. On the other hand, a report of the Council on Pharmacy and Chemistry which explained why a certain mixed influenza bacterin was not accepted states that the manufacturer of this vaccine submitted as evidence for the value of his combination a letter from the director of his biologic laboratories expressing the belief that in his own case (the director's) the use of the mixed vaccine has aborted or prevented colds! W. A. P.

SHALL WE ISOLATE OURSELVES?

In days such as these when the best that is in nations is being sought out to be mobilized for the good of humanity, we are constantly confronted by that universal doctrine of isolation. In this isolation people selfishly seek to improve conditions for themselves, regardless of the fact that it may be inimical to the common welfare. This principle is not without its benefit, since many of the great things of the world today have been the result of an isolation of bodies of people who have given to the world the fruits of their work. Such a doctrine existing in a portion of a single nation is often productive of a state bordering on chaos. Our own nation is but a collection of democracies—as yet the nation in which freedom is present in its greatest degree. The only feature which mars our national freedom is the hard and fast principle of state division. Those who love freedom and justice are constantly striving to eradicate the legal barriers which face us because of state rights.

The medical profession of the state of Pennsylvania has every reason to be thankful to our Bureau of Medical Education and Licensure for the rapid strides which have been made in improving conditions for the medical profession of the state of Pennsylvania. The requirements for medical education are today such that the graduate and young licensed physician is not only equipped with theory but has a good practical knowledge. These standards have made it impossible for the "cultist" to claim equality with the young physician and we are duly grateful to those who have been so active in raising the requirements. There is, however, one injustice in the interpretation of our present medical law. The ruling that the hospital year must be served within a duly accepted hospital within our state is one which places us in quite an embarrassing position. We are indeed proud of most of the hospitals of our state, but the refusal of our state board to recognize work done at institutions such as Lakeside, Johns Hopkins and the Massachusetts General is a policy which threatens to isolate us in a degree which must react unfavorably on the personnel of our future state profession. We recognize the difficulty of exercising the best of judgment in rating hospitals outside of the control of our medical state board, and yet to require a man who has spent eighteen months to two years in a hospital with a world-wide reputation to serve another year in one of our institutions is a policy which denies us many men who would be valuable additions to our state profession.

The remedy is of course to raise the national requirements to meet the high standard set by our state board, but this is at present impracticable and even impossible, so that we should urge that institutions without our state be rated and certainly that institutions concerning which there would be no question be recognized.

If we are to persist in enforcing undemocratic obligations on the graduates of our own state who seek hospital training elsewhere, we shall shortly see ourselves placed on an island by ourselves. If we facilitate the interchange of men trained in the fine institutions of other states we shall be striving for the common good. The product of our medical schools, which are second to none, shall surely return with the best that can be gotten in the excellent hospitals of other states. The extra year of internship may seriously financially embarrass aspirants who have every qualification and should not be victims of a technicality which denies the graduate a reasonable freedom of choice, which he should have in a democratic nation such as our own. W. H. M.

HARRISBURG AS A MEETING PLACE

Harrisburg, the capital city of Pennsylvania, has much to recommend it as an ideal convention city. Indeed, so favorably have its advantages as a host for conventions been reported by home-returning delegates that it is fast becoming "The City of Conventions." An average of more than a convention a day has been entertained within its hospitable limits during the past few years.

Three hundred passenger trains pass through Harrisburg daily, and it has been estimated that 17,000,000 passengers are transported through the city annually. Extensive freight classification yards and transfer station, with through and frequent car service daily, together with the $1,000,000 freight station of the Pennsylvania Railroad Company, give ample evidence of the railroad companies' recognition of Harrisburg's pivotal importance. The transportation facilities to the numerous beautiful suburbs, which lie like jewels amidst the surrounding farm and hill lands, are abundantly ample to afford ready transportation. Trolley lines connect the city with Philadelphia, 107 miles away, and numerous important towns lying in between.

Visitors to Harrisburg and delegates to the various conventions invariably find themselves attracted and interested in Harrisburg's municipal attractions. Foremost among these improvements which instantly impress the visitor is the street system. There are 77 miles of asphalt paved highways, 59 miles are graded, and 9 miles macadamized. Among numerous other public improvements are a vast system of public parks aggregating 1,087 acres, a $200,000 memorial viaduct across a deep railroad cut, a concrete promenade along the river park which extends the entire length of the city, ornamental street lighting and underground wires.

The capitol is one of the ten finest bulidings in the world, and every Pennsylvanian finds himself lost in admiration at the beauty and grandeur of the handsome edifice when he is confronted with its overwhelming magnificence. Flanking it is the Pennsylvania State Library, containing 120,000 volumes and a complete natural history museum of Pennsylvania.

Penn-Harris Hotel, Headquarters for the Harrisburg Session

Hotel accommodations in Harrisburg are assured with the addition of the up-to-date Penn-Harris, erected by a cooperative company formed through the efforts of the Harrisburg Chamber of Commerce, at a cost of $1,300,000. The completed hotel has 250 private rooms and bath, ball room, convention rooms, and parlors, and is amply prepared to furnish space as headquarters for various conventions. In addition, the city has sixty-nine other hotels of varying sizes.

For those who are socially inclined, 257 clubs and fraternal organizations of various kinds and twelve modern theaters and motion picture houses cater to their desires.

ATLANTIC CITY A. M. A. SESSION

The session of the American Medical Association at Atlantic City, June 9-13, the Victory Meeting, will be largely attended. For particulars see *The Journal of the American Medical Association* for May 10. For a list of general and sectional headquarters see General News Items in this issue.

LEGISLATIVE

For the first time in this session of the legislature, the representatives of organized medicine have made an appeal for legislative enactment for the financial benefit of themselves. This has become necessary in the effort to make the law so as to read that the employer may, by law, pay for medical, surgical and hospital services, etc., that which he now does, by choice, in over 60 per cent. of the cases of injured employees in the state. This has been proven in the hearings held before the amendment to the Workmen's Compensation Act, as proposed by the board and prepared for introduction as a proposed legislative bill. For two terms of the legislature the representatives of organized medicine have been put aside with the statement that the law was too new in its application to present any change in its provisions. This, the third attempt, should prove successful in that the profession who are affected by this type of surgical practice may be relieved of caring for compensation cases, in hospitals, and compelled to give their services in many of the 40 per cent. of cases, as a form of charity. We may be accused of introducing a salary-raising measure, but we contend that the measure proposed by the board as well as the Steedle Bill calls only for compensation for services on the part of the surgeon, and the hospital, that is paid in the community for the same service to employees not under the compensation law. We trust that sufficient interest may be awakened on the part of those who do compensation surgery to aid in the passage of this measure, and to those who do not, to lend their assistance, as no one knows when measures affecting us all may need help. F. L. V. S.

Tuberculosis.—Tuberculosis is the great scourge of civilized mankind. Unless more progress is made in fighting the disease, 9,000,000 of the 100,000,000 persons in the United States may be expected to die of it.—*Health Bulletin,* Newark, N. J.

BULLETIN EXCERPTS

MEDICAL MONTHLY, BUCKS

Our Secretary (1895-1919)

ANTHONY F. MYERS, M.D.

We take pleasure in presenting the face of our loyal friend, Dr. Anthony F. Myers, Blooming Glen. He has been the faithful secretary of the Bucks County Medical Society for many, many years. He has always been prompt and devoted to his trust, very seldom missed a meeting for over a score of years. Many of the best meetings held years ago and the programs presented by him were due to his untiring efforts in behalf of the society. He always had eminent members of the profession on his list whom he could command on a day's notice if those on the program were unavoidably detained. His professional friends are legion.

ANTHONY F. MYERS

CAT.

Dr. Myers was born in Plumstead township, near Tohickon Hill, Jan. 6, 1856. He is the son of John K., and Maria F. Myers. He was reared on a farm, north of Pipersville, along the banks of the Tohickon, and obtained his primary education in the rural school. He spent several terms at the Millersville State Normal School and taught school for five years. In the summer of 1882, he began the study of medicine under the tutorage of Dr. Brumbaugh, Piperville, and graduated from the Missouri Medical College, St. Louis, Mo., in 1885.

Dr. Myers located at Blooming Glen, spring of 1885, and became a lasting fixture of that garden spot. He joined the Bucks County Medical Society, May, 1888, served as president in 1894. At the August meeting, in Bristol, 1892, Dr. Myers was appointed the "official reporter" to the journals and lay press of the society's affairs, a duty he has performed ever since. At the annual meeting, November, 1895, he was elected the regular secretary of the society. He has been re-elected every year since that date, a record reflecting very creditably on his faithful devotion to the interest and welfare of the organization. He always refused remuneration; however, in the nature of a surprise a few years ago, the members of the society presented Dr. Myers with a handsome gold watch and chain, as a token of esteem and a slight recompense for his many years of faithful service. He is a staunch supporter of the *Monthly,* attends to the publishing and mailing lists, etc., and always cheerfully helped the editor when required.

Dr. Myers was married in October, 1888, to Miss Wilhelmina Snyder of Hilltown township. A son and daughter bless the hearth; both received collegiate training and degrees and are now engaged in active life. Politically, Dr. Myers is a lover of Lincoln, a devotee of Roosevelt, and an ardent admirer of Wilson.

For the many beneficial things that he has done for our society, he deserves all the good things coming his way, and then some more. May his usefulness never grow less nor the shadows of worry darken his pathway; may his last decade be crowned with benefit and deserved reward; and, finally, may he live long and enjoy to his heart's content the fullest degree of satisfaction. W.

BULLETIN, CLEARFIELD

The War Fund

To the officers and members of the Clearfield County Medical Society: The War Fund Committee begs to submit the following report of receipts and expenditures since the inauguration of the new plan. The following have contributed to the fund as follows: Drs. W. W. Andrews, $40; E. L. Jones, $25; G. B. Yeaney, $77.50; J. M. Quigley, $105.10; G. B. Shivery, $45; S. J. Morris, $5; W. B. Henderson, $55; M. C. Dinger, $45; H. A. Blair, $30; S. J. Waterworth, $90; G. W. Gann, $50; W. E. Reiley, $96.69; S. D. Bailey, $45; J. Dale, $15; A. Read Derick, $35; I. H. White, $50; W. O. Wilson, $10 (in service); J. M. Cornely, $45; W. H. Dale, $15; E. S. Erhard, $15; I. S. Flegal, $45; J. Paul Frantz, $101; J. W. Gordon, $23; L. C. Harman, $45; F. W. Harper, $45; E. E. Houck, $40; F. C. Howe (now deceased), $15; Robert Jackson, $40; C. E. McGirk, $45; G. E. Mauk, $45; S. J. Miller, $35; L. W. Quinn, $25; G. A. Ricketts, $25; J. Frank Rowles, $45; R. L. Williams, $20; H. L. Woodside, $15; H. O. King, $15; J. I. Brockbank, $45; total, $1,563.29. Under the old plan there was collected $829.11, from which only five men received benefits; whereas under the new plan there has been collected $1,563.29, of which $1,090.69 has been distributed, and $472.60 remains on hand ready for distribution, and which will be distributed within the next day or two, and eleven men have benefited from the new plan. Under the new plan thirty-eight members have contributed to the pool and sixteen members have not contributed. This gives a grand total of $2,392.40 which this society has contributed to the members in active service, which amount does not include the annual dues for each one for 1918 and 1919 which were paid by the society.

STATE NEWS ITEMS

MARRIED

Dr. Lewis W. Wright, Lieutenant, U. S. Army, Williamsport, and Miss Mina R. Cohen, at Baltimore, Md., February 20.

DIED

Dr Alexander B. MacCrae (Long Island Coll. Hosp., Brooklyn, '65) in Berwick, April 15, aged 82.

Dr. Francis H. Sinning (American Eclectic Med. Coll., Cincinnati, '85) in Titusville, March 15, aged 63.

Dr. Alfred J. Becker (Hahnemann Med. Coll. and Hosp. of Philadelphia, '85) in Catasauqua, April 15, aged 56.

Dr. John Henry Myers (Baltimore Med. Coll., '83) in Lewistown, March 6, aged 78, from cerebral hemorrhage.

Dr. Wade Hampton Sherrill (Jefferson Med. Coll., Philadelphia, '16) at Sherrill's Ford, N. C., March 25, aged 29.

Dr. Levi K. Slifer (Univ. of Pennsylvania, '72) of Philadelphia, at Blue Bell, March 16, aged 64, from heart disease.

Dr. Lewis B. Griffith (Hahnemann Med. Coll., Philadelphia, '80) in Philadelphia, March 31, aged 61, from heart disease.

ITEMS

Dr. Joshua E. Sweet, Philadelphia, on duty with Base Hospital No. 10, has been promoted from major to lieutenant-colonel.

Major Robert S. McCombs, Philadelphia, has returned from service with the Medical Air Service of the British government.

Dr. J. Chalmers DaCosta, Philadelphia, Lieutenant-Commander, U. S. Navy, sailed on the George Washington, April 11, for France.

Dr. J. W. E. Ellenberger, Wilkinsburg, has been appointed acting medical inspector in place of Dr. Adolph Koenig, Pittsburgh, resigned.

Dr. Walter A. Wood, Philadelphia, now in charge of the evacuation hospital at Coblenz, Germany, has been promoted from captain to major.

Dr. James R. Bean, Philadelphia, has been appointed health commissioner and director of the State Cooperative Laboratory, Oshkosh, Wis.

Dr. Marie K. Formad, Philadelphia, has returned from France where she has been the past year doing relief work among the refugee civilians.

Dr. Samuel Leopold, Philadelphia, who was an instructor in neurology at the University of Pennsylvania, on his return from overseas' duty has been notified of his promotion from major to lieutenant-colonel.

Dr. Evans M. Free, Lieutenant, M. C., American Army of Occupation, Stewartstown, is the possessor of five ribbons won by his horse, "Mike," which he has entered in numerous shows and contests held by overseas' forces.

Dr. J. T. Rothrock, West Chester, was 80 years of age April 9. The American Forestry Association has announced that eighty memorial trees will be planted in honor of Dr. Rothrock, the "father of forestry" in Pennsylvania.

Major W. W. Keen, M.D., LL.D., Philadelphia, professor emeritus of surgery at Jefferson Medical College, who saw service in the Civil War and in this war, has been elected an honorary member of the Medical Club of Philadelphia.

The Lawrence County Medical Society recently held a "war meeting" at which over 50 per cent. of their available men were present. Addresses were given by two returned officers, which showed the value of training and experience in camp, but also called attention to the financial sacrifice entailed.

Dr. Alexander Sterling, Philadelphia, has been appointed assistant physician *pro tem.* in the Department of Medicine of the Jewish Hospital, in the service of Dr. S. Solis Cohen.

Dr. Alexander C. Abbott, Philadelphia, professor of hygiene at the University of Pennsylvania, and in charge of sanitary supervision for the Second Army, A.E.F., has been promoted to colonel.

Dr. Henry A. Hutchinson, Dixmont, having completed forty years of continuous service in the Dixmont Hospital for the Insane, thirty-five years as its superintendent, tendered the employees and patients a reception and ball at the institution, April 15.

Transmissible Diseases in Philadelphia.—Chief Medical Inspector A. A. Cairns has reported that, owing largely to the influx of war workers, congestion of population and the influenza epidemic, the number of cases of communicable diseases in 1918 ran up to 93,943, compared with 30,851 in 1917, about 200 per cent. increase.

Dr. C. Howard Moore, Philadelphia, who enlisted in April, 1917, went to France as a lieutenant with the Rainbow Division and was commissioned a captain in 1918, was promoted to major, March 1, and assigned to take charge of Evacuation Hospital No. 27, Army of Occupation, at Coblenz, Germany. This hospital is limited to fracture cases.

Tuberculosis Sanatoriums to Be Improved.—Realizing the value of the enormous work done by the late Dr. Dixon, the present commissioners of the health department have decided that this should be carried on to a still greater degree and greater efficiency. Plans and specifications have been drawn for replacements, alterations and improvements at the three institutions, which will cost approximately $300,000 for Mont Alto, and $100,000 each for Cresson and Hamburg.

Physicians and Industries Get Together.—Because of the numerous requests for information regarding opportunities for industrial service in Pennsylvania, which are being received from medical officers discharged from military service, the acting commission of labor and industries has offered the service of the state to enable industries and physicians and surgeons to get together. Dr. Francis D. Patterson, chief of the Bureau of Hygiene, will have charge of this feature of the state work.

Officers Return from Abroad.—Among the officers returning from overseas' duty the following are reported: Major Maurice V. Brant, Cairnbrook; Lieut. John W. Burkett, Moon Run; Lieut.-Col. John B. Carnett, Lieut.-Col. Daniel J. Donnelly, Lieut.-Col. Clarence P. Franklin, Capt. Owen R. Hubley, Capt. Leo A. Kane, Lieut.-Col. Samuel Leopold, Major Arthur Newlin, Major Charles A. O'Reilly, Philadelphia; Lieut. John F. Golden, Lieut. Robert T. Hood, Pittsburgh; Major John B. Corser, Lieut.-Col. Jonathan M. Wainwright, Scranton.

Reception for Surgeon-General.—A reception was held by the Medical Club of Philadelphia for Major-General Merritte W. Ireland, M. C., U. S. Army, at the Bellevue-Stratford, April 18. General Ireland, who was on the staff of General Pershing in France from June, 1917, until October, 1918, said that at the cessation of fighting there were 236,000 beds available in France and 120,000 in the United States. He made an earnest plea that physicians and surgeons should be willing to remain in the army to care for men who still need attention; there are 53,000 men in hospitals in America, and 58,500 in France. Of the latter, 10,000 are injuries which probably will be healed before they are sent home. At the conclusion of the talk Dr. Henry Beates moved that the Medical Club extend to General Pershing its appreciation of the cooperation he gave to the medical department, and General Ireland was commissioned to carry it.

Lieut.-Col. Thomas H. Johnson, Philadelphia, on duty with Base Hospital No. 29, University of Pennsylvania Unit, has been awarded the médaille d'honneur des épidémies by the French government.

Harrison Law Tax on Physicians Increased.—The following resolutions, presented by Dr. H. P. Ashe, were unanimously adopted at the regular business meeting of the Allegheny County Medical Society held April 8:

Whereas, The Harrison Law for the control of narcotic drugs was devised for the furtherance of the public health, and

Whereas, The original tax of $1 annually levied on the members of the medical profession was generally understood as merely a nominal tax, Congress being unable to exercise jurisdiction save through the subterfuge of a revenue measure, and

Whereas, The recent enactment for the control of narcotic drugs has increased the tax imposed on the members of the medical profession to $3, be it

Resolved, That the Allegheny County Medical Society hereby protests against the unjust discrimination against the members of the medical profession in imposing on them the financial support of a measure distinctly in the interest of the public at large, which the general public in true equity should financially sustain.

Resolved, That the Allegheny County Medical Society demands the expeditious removal of this unjust, inequitable tax by an amendment of the present law, which shall expunge therefrom the registration fee levied on the members of the medical profession.

Resolved, That these resolutions be printed in the *Weekly Bulletin* of the Allegheny County Medical Society, and that copies of these resolutions be forwarded to the members of the National House of Representatives from Allegheny County, to *The Journal of the American Medical Association,* to the Pennsylvania Medical Journal and to the public press.

Would Make Harrisburg Model City for Health.—Members of the Civic Club, Rotary Club, Chamber of Commerce and other organizations attended a preliminary mass meeting, April 14, in the hall of the House of Representatives, at which was outlined State Health Commissioner Martin's plan to make Harrisburg a model city from the standpoint of public health and sanitation, as an example to the other cities of Pennsylvania concerning the measures the State Health Department would have them take. Colonel Martin at a conference with Dr. J. M. J. Raunick, the local health officer, said that an excellent foundation has been laid here for the work the department desires to undertake. Mayor Keister promised the city's hearty cooperation in the plan, as has Dr. Raunick, and his declarations in this respect were seconded by members of the civic associations, Red Cross, Kiwanis Club, superintendents and officials of schools and officers of parent-teacher associations, present in large numbers. Each phase of the work will be taken up by the various organizations having to do with it and a series of meetings will be held to get the program promptly under way. State Statistician Batt, who opened the meeting, showed the bearing of the disease and death reports on the control of sanitary conditions, and demonstrated that these records for Harrisburg were about those obtaining in well-conducted communities the country through. Chief Medical Inspector Hull showed that the incidence of contagious diseases reflected the greatest credit on the health authorities of Harrisburg, being lower than that of any other similar community in the state. He urged a more prompt reporting of contagious diseases, a more careful supervision of schools, education of the householders, and in particular the prompt erection of a contagious disease hospital to which sources of danger to the community could be promptly removed. Dr. Schaffle, medical inspector of Tuberculosis Dispensaries, demonstrated the gratifying diminution in the incidence of this disease in Harrisburg, attributing it in part to the intensive campaign conducted against it. He strongly urged the establishment of a hospital to which those cases beyond medical aid could be removed, thus taking away sources of infection to others. The chief of the Division of Child Hygiene outlined a cooperative effort by which prenatal care might be secured, advocating the establishment of observation clinics, the study of home sanitation and the employment of trained public health nurses. Chief Emerson, of the Division of Engineering, showed that typhoid fever has been entirely abolished in Harrisburg incident to the pure water supply and that the danger in the future lies not in the perfection of the mechanism, but in its inadequacy for the needs of the growing city. Chief Molitor, of the Bureau of Housing, alluded to the work of the Octavia Hills Association, Philadelphia, which have proven not only useful to the community, but actually profitable, and offered to put the force of his organization at the disposal of the Chamber of Commerce which has recently established a bureau having supervision of this matter.

GENERAL NEWS ITEMS

The Medical Women's Association of New York has established and is maintaining four hospitals in France and one in Serbia, and has sent more than 100 women physicians to service in Europe.

Dr. José Penna, professor of epidemic diseases at the University of Buenos Aires, known the world around as an authority on epidemiology, and a pioneer in public health matters, is reported to have died suddenly.

Casualties in the Dental Corps of the Army, tabulated by Surgeon-General Ireland, and announced April 9, disclose that six officers of the corps were killed in action. Forty-seven other officers of the corps died of disease.

Major-General William C. Gorgas, former Surgeon-General of the Army, and a party of sanitary experts arrived in Panama, April 3, and left April 7 for Guayaquil, Equador, to investigate sanitary conditions in that place and country.

Miss Jane A. Delano, Director General of the Department of Nursing of the American Red Cross, died at Base Hospital 69, Savaney, France, April 15, of complications following mastoiditis, for which she underwent an operation several weeks ago.

The Conference of State and Provincial Boards of Health will be held at Atlantic City, June 6 and 7, following the conference of the Surgeon-General of the U. S. Public Health Service with the state and territorial health officials at Washington, June 4 and 5.

A Serious Epidemic of Smallpox, which for seven weeks has been ravaging the Province of Apulia, Italy, was reported in a cable to the New York *Sun*, March 31. It is said that thousands of the poorer classes have died, 1,500 having perished in the city of Bari.

The Physicians' and Surgeons' Adjusting Association, Kansas City, Mo., calls the attention of physicians to the fact that they collect old accounts. Their advertisement will be found on another page of this issue, and any business transacted with this company will no doubt be entirely satisfactory with those who have dealings with them.

Defective School Children in United States.—According to the annual report of the executive committee of the National Physical Education Service, given out April 9, 50 per cent. of the 25,000,000 boys and girls of school age in this country have physical defects and ailments which impede their normal development. A lack of proper physical education, such as play, athletics, work and gymnastics, was given as the cause for the physical disability, and a broad program of state and federal legislation for the required education was urged as a means of bringing the children to the proper standing.

Hotel Headquarters for the Atlantic City Session of the A. M. A.—The following hotels have been designated as general and section headquarters for the coming annual session of the American Medical Association to be held at Atlantic City, June 9-13: General Headquarters, Marlborough-Blenheim; Practice of Medicine, Dennis; Surgery, General and Abdominal, Chalfonte-Haddon Hall; Obstetrics, Gynecology and Abdominal Surgery, Breakers; Ophthalmology, Traymore; Laryngology, Otology and Rhinology, Chelsea; Diseases of Children, Seaside; Pharmacology and Therapeutics, Arlington; Pathology and Physiology, Royal Palace; Stomatology, Craig Hall; Nervous and Mental Diseases, Brighton; Dermatology, Blackstone; Preventive Medicine and Public Health, Shelburne; Genito-Urinary Diseases, Alamac; Orthopedic Surgery, St. Charles; Gastro-Enterology and Proctology, Bothwell.

Complaint Against Victor Electric Corporation Dismissed.—At a regular session of the United States Federal Trade Commission held in Washington, D. C., March 10, the complaint against the Victor Electric Corporation was ordered dismissed and discontinued. The personnel of the Victor organization is largely made up of pioneer workers in the roentgen ray and physical therapy field and we have always believed that these men (who are directing the policies of the Victor Electric Corporation) have been actuated by a desire to elevate rather than lower the standard of business ethics in their field. The Victor Corporation is to be congratulated on having had this opportunity of having the government searchlight turned on its activities, and the clean bill of health which the corporation has received should be an inspiration to its officers to continue to be guided by those ideals which should be kept in constant view by all who are engaged in an industry so closely allied to medical science.

COMMUNICATION

EVIDENCE OF CURE OF MALIGNANCY BY HIGH TEMPERATURE

230 Clay Aveune, Kane, Pa., April 16, 1919.

To the Editor:—If the claim so frequently made that high temperature (diathermia, for instance) is positively curative in malignancies were correct, sufficient corroborative evidence to make certain should by this time have been collected from cancer subjects cured through having suffered from hyperpyrexia such as we meet with in acute inflammatory rheumatism, or a long run of such fevers as typhoid.

The writer is anxious to obtain from readers of our Journal who may have met such cases, sufficient data for or against the assumption to be of tangible value.

A reply will be greatly appreciated.

Yours sincerely,

Evan O'Neill Kane.

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Essentials of Surgery: A Textbook of Surgery for Students and Graduate Nurses and for Those Interested in the Care of the Sick. By Archibald Leete McDonald, M.D., The Johns Hopkins University, formerly in charge of Department of Anatomy, University of North Dakota; Lecturer on Surgery, Nurses Training School, St. Luke's Hospital, Duluth, Minn. Illustrated. Philadelphia and London: J. B. Lippincott Company.

Hygiene of the Eye. By William Campbell Posey, A.B., M.D., Ophthalmic Surgeon to the Wills and Howard Hospitals; Professor of Diseases of the Eye in the Philadelphia Polyclinic; Ophthalmologist to the Department of Physical Education of the University of Pennsylvania; Chairman of the Commission of Conservation of Vision of Pennsylvania. 120 illustrations. Philadelphia and London: J. B. Lippincott Company.

BOOK REVIEWS

THE SURGICAL CLINICS OF CHICAGO. February, 1919. No. 1, with 75 illustrations; pages, 236. Philadelphia and London: W. B. Saunders Company.

This exceedingly interesting number gives valuable clinical lectures on Secondary Hemorrhage in War Surgery, Blood Transfusion, Plastic Operations on the Face and Nose, Cancer of the Tongue and Facé, Surgery of the Kidney and Genito-Urinary Tract, Oto-Laryngological Lesions and other topics of general surgical interest. The illustrations are as usual in this publication very numerous and illuminating. The publishers, as well as the authors, evidently realize the importance and value of the artist's pencil in elucidating operative technic. Teachers of surgery have long recognized the greater value of line sketches than of photographs in demonstrating the steps of operations. In this book they have used both methods with distinct advantage to the reader. J. B. R.

COUNTY SOCIETY REPORTS

BERKS—APRIL

At the meeting of the Berks County Society, April 8, "A Case of Eclampsia" was presented by Dr. Martin E. Gruver. "Aneurysm" was presented by Dr. Ira G. Shoemaker, who showed a case of an aneurysm in a boy, which was caused by a blow on the arm.

"A Case of Lethargic Encephalitis" was presented by Dr. Ira J. Hain. February 24 he was called to see the patient, aged 14, who was suffering intense headache in entire cranium, marked in occipital region, extending to back of neck and shoulders with general muscular pain in entire body. Temperature was 102; pulse, 90; respiration, 24. Throat was red and congested. Tongue was coated with a white fur. No cough and no previous history of influenza. Dr. Hain diagnosed the condition as influenza and prescribed citrate of magnesia in divided doses, one migraine tablet every two hours until three were taken, to be followed by strontium salicylate, 5 grains every three hours. Following day patient was somewhat improved, muscular pains absent except in occipital region; bowels moved slightly; expression was dull. At night headache became more severe, face dull and patient spoke only after much urging. Dr. Hain gave calomel followed in morning by magnesium sulphate which caused another hard stool. Strontium salicylate was continued. Next day patient apparently slept and was aroused only with difficulty; liver was enlarged, three fingers breadth. Condition continued for two weeks; bowels would move only after enema. Respiration being slowed Dr. Hain stopped strontium salicylate and gave one-sixtieth grain of strychnin every four hours. He then changed his diagnosis from influenza to lethargic encephalitis, due to stupor and hepatic enlargement.

A case for diagnosis was presented by Dr. H. U. Miller.

"Masked Malarial Infection" was presented by Dr. Ferdinando Colletti. On Feb. 24, 1919, he was called to see an Italian woman living in Reading. At age of 20 years she had contracted intermittent malarial fever which lasted one month. She was sickly until spring. One year later she removed to Brazil and remained there six and one half years, then returned to Italy, where she contracted intermittent malarial fever. Ten years later she came to America, to Albany, N. Y., for three years where she had the fever one month. In 1915 she came to Reading. She had four children and had had one miscarriage. Sept. 1, 1918, she had severe facial neuralgia of left side, could neither work, rest, sleep nor eat. She took electric treatments for two months without benefit, and took much medicine which would relieve pain for a short time only. Pain was more severe in morning. Patient was emaciated, pale and weak; abdominal organs were normal except spleen, which was slightly enlarged. Dr. Colletti thought it a case of masked malarial infection with facial neuralgia, especially of the fifth nerve. He prescribed strychnin, one-sixty-fourth grain; quinin arsenite, one-thirty-second grain; iron arseniate, one-thirty-second grain; nuclein, 8 minims, to be taken after meals; elixir of calisaya, nux vomica and phosphate, one half fluid ounce before meals; 2 grains quinin bisulphate every three hours. After two days of this treatment pain was less; after four days she could sleep all night; after one week pain was slight and only in the morning; after two weeks pain was gone, appetite returned and she could work. She now feels recovered.

Feb. 7, 1919, Dr. Colletti was called to see another Italian, aged 44. When 14 years of age she had had intermittent fever. She came to America in 1909. She had eight children of whom three are living; she also had one miscarriage. In August, 1918, she had intense pain under left costal arch, to left side of abdomen, lasting until February 21. She took electric treatment and much medicine without relief, and became emaciated, pale, weak, and lost appetite. Pulse was weak and 135 per minute; spleen enlarged and could be felt 4 inches below costal arch; abdomen was distended and she was constipated. She was confined to bed. Dr. Colletti diagnosed the condition as masked malarial fever with splenomegalia. He prescribed same treatment as in other case. She has improved very much indeed. Pulse is 85; spleen smaller and without pain or tenderness.

Clara Shetter-Keiser, Reporter.

CLEARFIELD—APRIL

The Clearfield County Society met, April 9, at Hotel Dimeling and was well attended. The program was very interesting and afforded opportunity to brush up on our knowledge of the commoner contagious diseases. Dr. A. D. Cowdrick's paper on "Mumps" was full of new ideas and observations gleaned from his late service in the army. Dr. H. L. Woodside gave a very timely exposition on "Scarlet Fever," dealing with its treatment as well as complications and sequelae incident thereto. Dr. W. E. Reiley discussed "Diphtheria," with special reference to immunity. General discussion followed, after which the matter of war fund was again threshed out. The secretary reported having sent each of the nine members still in the service a check for $50 during the month and that there was again a substantial balance in the treasury. Drs. L. F. Stewart, Wilson, Fiscus and Hoke, members of this society, have recently been mustered out of service and are about to resume their practices. The dispensary for the treatment of venereal diseases has been opened by the State Department of Health and is in charge of Dr. J. W. Gordon, who is also county medical inspector.

Responding to the state society president's call, the Committee on Public Policy and Legislation called an informal meeting at Dr. Frantz' office on the evening of April 14, which was well attended by the local physicians and plans were arranged to take a delegation to Harrisburg for the public hearing, April 29. It was decided to hold a special meeting of the society the following Thursday evening, at which President Cowdrick presided and the senator and representatives from this district were present. Our senator, Dr. S. J. Miller, who is chairman of the senate Committee on Health and Sanitation, was the guest of honor, as were also the representatives in the house from this district. The meeting was very well attended by local and county members and resolutions were adopted protesting the passage of the "osteopathy" and other bills pending at Harrisburg. By a unanimous vote of those present Hon. A. H. Woodward, Esq., of Clearfield, one of the leading attorneys of central Pennsylvania, was engaged by the society to represent us at Harrisburg at the public hearing and such other times as deemed necessary, and his services were also placed at the disposal of the state society and President Van Sickle. About twenty-five members expressed the intention of going to the capital on April 29. The meeting was held at Hotel Dimeling and a luncheon was served at the conclusion of the business session.

J. Paul Frantz, Reporter.

DELAWARE—MARCH

The Delaware County Society met, March 20, at Chester Hospital with a fair attendance. The subject matter for the afternoon was a paper on "Angina Pectoris," by Dr. John B. Roxby of Swarthmore. Dr. Roxby's idea that the sympathetic system has more to do with this condition than disease of the coronary arteries is certainly worth considering. The discussion brought out the question of distinguishing between abdominal angina and acute indigestion, which is another thing worth thinking about. Regarding treatment, Dr. Roxby said that for relief at the time of an attack morphin was the most dependable drug; of course between spells the treatment was symptomatic to a great degree, finding the cause if possible.

The idea of the society meeting at different places in the county, instead of always in Chester, seems to be popular; after the next meeting the plan will be tried. A membership committee was appointed for the purpose of bringing out the members, and bringing into the fold eligible physicians who have neglected former invitations, or who have not previously been solicited.

Adam J. Simpson, Reporter.

DELAWARE—APRIL

Probably one of the most successful meetings ever held by the Delaware County Society was called to order at the Chester Club, April 17, by President Stiteler. The attendance was almost double the usual number. The membership committee reported progress and a program for the future; it should bring good results.

The speaker of the afternoon was Dr. B. A. Thomas of Philadelphia. He presented his subject, "Surgical versus Paliative Treatment of Hypertrophy of the Prostate," in a manner such as only a master of that subject can, emphasizing that surgical treatment should be considered first, instead of proposing medical treatment until the patient was in a condition to be treated radically; on the contrary, he argued that medical treatment may be of benefit after surgical, or in cases that for some reason surgical interference is not indicated. By graphic charts, he demonstrated the results obtained after radical treatment. He favored the suprapubic route, in most cases, but he believes that the surgeon should use his judgment, as in some instances the perineal route would be preferable. He dwelt on the importance of demonstrating the "kidney function" before all these operations. He said that "the potentiality of infections should be taken into consideration in cases where catheter life was necessary."

After the meeting a dinner built around the far-famed "Delaware River Shad" was served in the club dining room. The next meeting will be held at Ridley Park. The members will be guests of Dr. H. Furness Taylor assisted by the staff of the Taylor Hospital.

Adam J. Simpson, Reporter.

FRANKLIN—APRIL

The meeting of the Medical Society of Franklin County was held in the Courthouse, April 15, President Shull presiding. The minutes of the February meeting were read and approved. Two books on child training and school inspection were arranged for, to be placed in the public library.

Letters received from Dr. F. L. Van Sickle regarding legislation were read. On motion of Dr. Coffman the chair was directed to name a committee to communicate the expression of the society to the two members of the legislature from this county, with the request that on any medical bills they be guided by the suggestion of Dr. Van Sickle of the state society. On motion of Dr. Gordon the secretary was asked to attend the senate committee hearing at the capitol on April 29, in re the two osteopathic bills.

Dr. Kempter urged that some efforts be inaugurated to secure a larger attendance at the monthly meetings. He spoke of the Boston clinics, edited by Dr. Cabot of Harvard Medical School, and urged that they might be used. The secretary stated that some of the county societies use these clinics at some of their meetings. An invitation to hold the June meeting at Waynesboro was on motion gratefully accepted.

Capts. Theodore Peters, John M. Gelwix and Lieut. Fairfax G. Wright of Chambersburg, and Lieut. Thomas H. Gilland of Greencastle have been honorably discharged from the service and have returned to their practices. Lieut. M. W. Stofer of Chambersburg has been honorably discharged and will probably locate in New York state. Dr. John H. Devor of Chambersburg has been forced to relinquish all practice except some light work.

John J. Coffman, Reporter.

LANCASTER—APRIL

A large turnout of the physicians of Lancaster City and County was present at the April meeting to hear the papers by Drs. McAlister and Landis. The meeting was unusually interesting and the session lasted until well onto 5 o'clock.

Dr. J. B. McAlister, Harrisburg, spoke on "Health Insurance," which he termed as one of the most serious problems ever before any legislative body, and one that requires a great deal of thought and study. Fifty to 80 per cent. of the population derives its support from industry which means that this percentage of population would be attended by the health insurance doctors.

In 1918 a health insurance bill was introduced before the Pennsylvania legislature and by act of the legislature a commission was appointed to report at the current session. The report is now in the hands of the printer and the subject of this address is taken largely from the report of that commission. There is practically no danger of health insurance being passed by this session of the legislature as the commission was not prepared to file a complete report and asked for two more years to continue its investigation before making a final report.

It is interesting to note that in six years thirty-eight states have adopted workmen's compensation insurance and naturally the same agents that backed this form of legislation are backing health insurance. This means that there is powerful influence back of this proposed legislation.

In Pennsylvania 16,800,000 working days were lost by illness in 1916 or five to seven times as great a loss as that caused by accidents. There are constantly 385,000 cases of illness in this state of which cases 240,000 are those of severe illness. At the rate of $2 a day $33,000,000 are lost per year to the employees.

The average yearly cost for a physician's medicine and medical supplies to each employee and his family was $30 to $33. This is a result of a house to house canvass made by the commission. The losses to the employers due to illness are in the form of reduced efficiency and loss of labor turnover which is a very important consideration. Progressive industrial plants are meeting this loss by employing plant physicians, trained nurses, dispensaries and social service, because they find that it pays to care for their employees and maintain their efficiency. It has been said that sickness is the cause of 25 per cent. of the poverty in Pennsylvania. Bad homes, low wages and poor nourishment all stimulate increased illness. Since sickness is the forerunner of poverty, there should be some solution to meet the issue squarely. Fully 50 per cent. of the cases of sickness caused by industrial occupation could be prevented. The Workmen's Compensation Law has greatly decreased the number of accidents in Pennsylvania.

The commission believes there is only one way to relieve this burden of sickness and that is not to ask the wage earner to bear the full responsibility, but to adopt some other plan whereby the employer and the state would share the responsibility.

In the five states where health legislation has been brought before the legislature, four states, California, Ohio, New Jersey and Illinois, have spoken in favor of it and in Massachusetts they are divided. In New York the Federation of Labor is backing the bill.

The proposition is, whether health insurance is desirable. Legislation may be enacted which may be against our interests but the broadminded physician must look at it from all standpoints. There is a growing body who believe that health insurance is needed at this time, but does this form of legislation go to the root of it or spread the burden? Unless physicians deal intelligently with this proposition, the result will be disastrous to them. Pennsylvania has nine million inhabitants and about eleven thousand physicians, and we may have little to say in the final issue. Once a plan is agreed on by organized labor and organized capital, health insurance will be enforced. As we are directly concerned and have to assume a great part, we should have a say and probably will be listened to if we have anything definite to offer. Fees in the nature of tips would be disastrous to the whole scheme and would not tend to efficient medication or treatment. The American Association for Labor Legislation is backing the health insurance bill.

It is not impossible that in from two to four years some plan of health insurance will be passed. The medical profession was asleep when the Workmen's Compensation Bill was passed but we should be wide awake when this bill comes up. At this time, we can oppose health insurance on a common-sense ground: 1. It would cost $75,000,000 to inaugurate the plan, which is twice the annual loss from sickness. 2. The causes of sickness should be probed more fully, paying particular attention to prevention. County and city health officers devoting full time to their respective branches would seem to offer some possible solution. The county medical inspector should have facilities for laboratory diagnosis which would be available to the country practitioner. Legislation should be enacted whereby the defects found in school children by compulsory medical examination would be corrected. This would tend to alleviate a lot of sickness and disability which occurs. 3. Operation of the Workmen's Compensation Law should be made adequate financially to the employee as well as to the physician and hospital. A bill is now before the legislature which allows medical attention for a thirty-day period with a maximum expense of $150 for medicine and supplies with an additional allowance of $250 in special cases and a greater compensation for the injured employee. This bill it seems would be desirable. It is the duty of individual physicians and component societies to ask legislators to back any bill which gives a better Workmen's Compensation Law; if they fail in this, we have every reason to fear health insurance.

The advocates of health insurance claim that the physician does not collect from all his patients; therefore, the individual charge should be lower if health insurance is enacted. We should remember that the service is a personal one and we should not be asked to make wholesale prices for industrial service. The medical service should be efficient and it can only be so if the medical attendant earns a living wage.

Each county society should appoint a committee to study this subject so that in two years' time when the commission holds its hearings, this committee can appear with its suggestions and plans.

Drs. Hartman, Stever and Atlee discussed the paper and Dr. McAlister closed the discussion by telling of some of the prominent men from the law, medicine, industry and labor who favored it. Dr. Roop moved a vote of thanks to Dr. McAlister for the paper.

The next speaker was Dr. H. R. M. Landis of Philadelphia, who spoke on the "Complications and Sequels of Influenza." He laid particular stress on the fact that probably most of the patients died not from the disease itself but from the complications, as lobar pneumonia and bronchopneumonia. Tuberculosis in the relationship it bears to influenza was discussed with the ease of a master. Empyema was considered in detail and all the way through his personal experiences were related with clearness and understanding that we have seldom seen duplicated anywhere.

Drs. Blankenship, Noble, Newpher and Hartman discussed the paper and at a quarter of five the meeting adjourned with everyone feeling that the afternoon had been of inestimable profit to them.

Walter D. Blankenship, Reporter.

LEBANON—APRIL

The Lebanon County Society met at the residence of Dr. John C. Bucher, Lebanon, April 8, with sixteen members present and as guests, Dr. F. G. Hartman, councilor of the Second District, and Mr. William Breitinger, manager of the Lancaster General Hospital.

The main item of business was the consideration of the preliminary report of the Joint Conference Committee of the three state medical societies of Pennsylvania, relative to measures affecting the medical profession pending in the present session of the state legislature. The report (see editorial in April issue) was read as a whole and then considered item by item, each item being clearly defined by Councilor Hartman.

The Committee on Public Policy and Legislation of the Lebanon County Medical Society was directed to secure copies of all pending bills relating to amendments to the Workmen's Compensation Act, to study the same and report thereon to the society at a special meeting to be held by it.

The other items in the report of the Joint Conference Committee were acted on separately and endorsed by the society.

All the members present contributed a dollar each for the expenses of the committee.

On account of the time required for consideration of the foregoing items, the paper on "Cardiac Valvular Diseases," by Dr. L. R. Light, was deferred to the next meeting.

Councilor Hartman addressed the society on certain general matters pertaining to the profession; and complimented the society on the large attendance, over 50 per cent. of its membership.

After the close of the meeting Dr. Bucher invited all to his dining room where a luncheon was served.

S. P. Heilman, Reporter.

LEHIGH—APRIL

The April meeting of the Lehigh County Society was held at Hotel Trayler, Allentown, April 15, and our new notice informing the members of how many meetings they have attended this year brought out a dozen new faces. They were welcomed, and a good paper on "When Is Gastroenterostomy Indicated?" by Charles A. Haff, was enjoyed, and a general discussion followed.

Dr. Anthony F. Myers, secretary of the Bucks County Society, was present and gave an enthusiastic talk, telling what spirit and enthusiasm existed in Bucks County. The ladies auxiliary is still active and the members have banded together to double the earnings of the auxiliary each time; such being the case, a building will soon be on hand as the ladies are on the job.

Drs. Arner, Butz, Herbst, Matz and Weaver have been discharged from the service. Captain Smyth, who spent eighteen months with the English in orthopedic work, is on this side and spent a few days with his friends. He hopes to be discharged shortly. Dr. D. H. Parmet has been elected pathologist of the Sacred Heart Hospital.

F. R. Bausch, Reporter.

PHILADELPHIA—FEBRUARY

The Philadelphia County Medical Society met, February 26, President Stahl in the chair, and presented a symposium on Acidosis.

"Alkali Treatment Applied to the Acidosis of Epidemic Influenza" was read by Dr. Thomas C. Ely. Epidemic influenza is a concrete instance of acidosis. Given a condition of acidosis the medical treatment is elimination and the administration of the alkalis. In the recent influenzal epidemic I employed this treatment with surprisingly good results. The textbooks affirm that infections from the streptococci and other pus germs and the pneumococci are always marked by pronounced acidosis, and in the present epidemic all authorities agree that these micro-organisms were especially in evidence. I have had but one death which could be justly attributed to influenza. A physician in a rural district wrote me that he gave the old alkaline fever mixture liquor potassii citratis and spiritus aetheris nitrosa freely to every patient and had only one death which was directly attributable to hemorrhage from a gastric ulcer. Dr. Andreus, a physician for a lumber camp in New Mexico, writes that he has treated over 300 cases with only five deaths. He used the alkaline treatment and all of his cases were treated under the most unfavorable circumstances as he "had no nurses except laborers and lumbermen, and at one time had seventeen sick patients in five beds." This is in striking contrast to the high mortality often seen in urban practice with neglect of the alkalis. In 26 cases of pneumonia with well-marked crises, over 100 cases of lobular pneumonia, 5 pregnant women and 11 instances of severe intestinal infections, I attribute the large number of recoveries to the persistent use of early elimination and saturation of the system with alkaline bases, avoiding any remedies which check secretion, as opium or belladonna, or any heart depressant, such as aspirin, or any influenza vaccine or serum.

Physiology teaches that if the alkaline reserves of the body have been withdrawn the poison acids cannot be neutralized, and that life cannot be preserved unless the bases, sodium, potassium and calcium, are supplied. The explanation of the success of the elimination and alkaline treatment is therefore obvious. Alonzo Taylor states: "If the acids were but eliminated entirely as ammonium salts, all would be well, but as they circulate they abstract from the tissues sodium, potassium and calcium and disturb the equilibrium of the basic elements in the tissues. Obviously the correct therapeutic measure is not to administer an alkali of one type, as sodium bicarbonate, but a mixture of sodium, potassium and calcium, in order that all these may be present in abundance in the tissues and the equilibrium of the fixed alkaline bases in the central nervous system be thus maintained." Too much alkali might produce an alkalosis and the limits of moderate alkaline dosage must therefore be observed. The use of sodium and alkalis should be under the guarded care of physicians and their promiscuous use by the public is to be condemned.

The technic of our treatment is: Immediate elimination by profuse sweating and divided doses of calomel, one-tenth grain every half hour until 1 grain or more is given. Water exclusively is given for the first twenty-four or forty-eight hours, and water is also given freely by mouth or by bowel throughout the attack. Sweating is accomplished preferably by drinking large bowls of hot boneset tea. Hot mustard foot baths are always used. At the outset and during the attack I give sodium bicarbonate, potassium citrate and the calcium salts in the form of lime water. To every patient I administered a teaspoonful of sodium bicarbonate to a pint of lukewarm water every four hours by enema. To spare the overworked druggist I have given routinely the simple prescription:

Sodium bicarbonate	½ ounce
Peppermint water	4 ounces

Teaspoonful every two hours

Alternating with:

Potassium citrate	½ ounce
Peppermint water .....'...	4 ounces

Teaspoonful every two hours

The calcium salts I give in the form of lime water, one-third; milk, two-thirds.

I have employed the common cardiac and respiratory stimulants. From the beginning of the attack the patient was given orange juice and lemonade freely.

In considering the physiologic action of the foregoing treatment it should be remembered that in man there is a continuous output of carbon dioxid through the skin and the increased work of metabolism of the sweat glands increases the carbon dioxid. This is a significant factor, for, as observed by Brubaker, it is probably carbon dioxid, due to the absence of alkaline bases, which chiefly gives patients the dark cyanotic hue, which has given rise to the popular name the "black plague."

Serum treatment might be rational and scientific if the micro-organism causing the disease had been isolated with certainty. We are all familiar with numerous reinfections, and it may be questionable whether a passive immunity can be induced for a disease which itself does not produce an active immunity. Also, are we sure that influenza serums and vaccines have proved harmless? Appreciating the wonderful accomplishments by the bacteriologist in typhoid, diphtheria, tetanus and many other diseases, is there not a growing tendency to give too much weight to bacteriology and serology to the exclusion of physiology, pathology and physiological chemistry? We consider that the chief cause of death in this epidemic has been the overwhelming acidosis. The object of our treatment has been to prevent the formation of this acidosis by the administration of the essential alkalis.

Dr. J. P. Crozer Griffith read a paper on "Acidosis in Children." Acidosis in contradistinction to acetonuria indicates a decrease in the alkali of the blood irrespective of the actual amount of acetone bodies which is being excreted. It is accompanied by a decrease of the carbonic dioxid tension of the alveolar air, an increase in the hydrogen-ion concentration of the blood and a great lessening of the reserve of the alkali in the blood. Two facts are brought prominently to our attention in the matter of acidosis in children. The first depends on the statement that acidosis and acetonuria are distinct. It is only by the occurrence of symptoms of acidosis or by laboratory tests that the relative excess of acid in the blood and tissues can be determined. Equally important is the second fact, that children seem especially prone to develop symptoms of acidosis. This may depend on the small reserve of alkali characteristic of early life, or on the facility with which children manufacture the acetone bodies without any discernible sufficient reason. Although we think of acidosis in connection with diabetes in children there are other causes which seem more frequently operative. I have seen a diabetic girl of three and a half plunged from a splendid general condition into a fatal coma by ill-considered change in diet. In recurrent vomiting attributed to acidosis I have never been able to convince myself that acidosis was present. A prominent cause of acidosis, especially in infancy, is severe diarrhea of the noninflammatory form in which there is a large loss of liquid from the intestine. In all cases in which we fear the development of acidosis there should be free administration of alkali, especially bicarbonate of soda and enough should be given to keep the urine alkaline. If given subcutaneously it must be especially prepared; boiling for sterilization renders the solution very irritating. So far as preventive treatment is concerned, unfortunately we have little to guide us in the matter of anticipating the condition.

Dr. Collin Foulkrod read a paper on "Acidosis in Pregnancy." I am hoping that we may have soon a national, impartial, nonindividual cabinet of experts who will in an unbiased manner seek theories of relief and give them a thorough laboratory and clinical tryout. If we mean by acidosis a displacement of the free alkaline content of the blood by the volatile fatty acids we are discussing a picture which has not yet been thoroughly worked out in its relation to pregnancy. If, on the contrary, we mean a superficial clinical picture of conditions which are relieved by alkaline treatments as a diagnostic point without laboratory investigation we may find some application in pregnancy. The crucial point in acidosis is the reduction of the reserve alkaline contents of the blood below a point which would enable it to carry off the carbon dioxid in the tissues to protect the internal respiration. In both internal and external respiration of the complicated metabolism of pregnant women, certainly at some point, when disturbed, evidence of acidosis appears. Recalling that ammonia plays a protective part in the blood in preserving the normal free alkaline contents we can see that the digestion of proteids in the liver and the catabolism of fats into the fatty acids are interrelated. So much so that Zweifel not only diagnosed acidosis as the cause of eclampsia, but identified the specific acid as sarcolactic. It has occurred to me that acidosis may be simply one stage in the different form of toxemic conditions, which may even be a fatal stage, and yet the principal cause of these different toxemias may be different, as for example, kidney inability to carry off acids in deranged metabolism in placenta and uterus, deranged liver function, deranged thyroid function. It is therefore readily seen that the simple correction of acidosis would have little or no bearing on the solution of the difficulty so far as pregnancy is concerned. The quick manifestation of acidosis in influenzal infection in pregnancy shows that the highly sensitive metabolism of the pregnant woman is nearer to the danger line than that of the nonpregnant woman. After a careful reading of the many studies made on acidosis I think we are unable to say just what it leads to in pregnancy. This, however, does not set aside the possibility of preventing such acidosis from occurring in the course of toxemia. In many toxemias of pregnancy, particularly in the presence of a high ammonia elimination, we have found a good prophylactic and curative measure the rectal instillation of alkaline antacid solution in combination with glucose. This has a particular bearing in the nausea of pregnancy and other forms of insufficient metabolism. It is certainly true that the alkaline treatment in the early stages of influenzal infection mitigates and sometimes prevents acidosis as seen in the severe epidemic of October, 1918. No dogmatic statements, however, should be made until further laboratory studies give us a basis for judgment.

Dr. Albert P. Brubaker read a paper on "The Physiology of Acidosis," and the papers were discussed by Drs. Alfred Stengel, Leon Jonas and W. D. Robinson.

WARREN—APRIL

The Warren County Society met at the residence of Dr. W. M. Baker, Warren, Monday evening, April 21, and was attended by nineteen members. In response to the appeal of the state legislative committee, $50 was appropriated by the society for its use. Drs. Beatty and Ball reported on their work with the recent child welfare exhibit.

Lieut. George S. Condit described some of the diseases met with during his service overseas; namely, trench fever, trench nephritis and disordered action of the heart. He gave a summary of the symptoms of each of these affections and the treatment indicated. The heart conditions if not due to overexertion or momentary excitement may have their origin in an overaction of the thyroid, or when the blood pressure is low there may be an insufficiency of the adrenal glands and the use of the proper glandular extract has been of distinct benefit. Dr. Condit believes we are likely to see a number of cases of recurrent trench fever among the returned soldiers. In trench nephritis there is often a large amount of albumin present with little or no discomfort; the patient's features fail to indicate any serious disturbance. Trench nephritis is not related to trench fever.

Capt. Paul B. Stewart, who returned in February from duty overseas, gave a very complete report on the nature and treatment of surgical affections, especially in the British front. As so many of the wounded had to remain seventy-two hours or more without treatment other than a first-aid dressing, the wounds were necessarily in a very bad condition when the men reached the casualty clearing stations. The surgeons accompanied the men as they went into action, usually going over in the third wave, and establishing an aid post as near the front line as possible. Here all that could be done was to administer a hypodermic of morphin, stop hemorrhage or apply a splint. Then the wounded man was sent back to a relay post or advanced dressing station. These posts were under fire and only superficial examinations could be carried on so that if the wound was serious the soldier had to be sent to the main dressing station established some two or three miles in the rear. Here fresh dressings were applied; shock was treated and the seriously wounded sent to the casualty clearing station where the first real treatment was given. Operations were performed, patients observed, or ordered sent to the base hospital. As nearly all wounds were infected to a greater or less degree by the time the clearing station was reached, the preparation called "bipp" made of bismuth iodoform and paraffin was generally rubbed into open wounds and a packing saturated with 1 per cent. flavine solution applied; the wound was partially closed and in two to four days if infection has not progressed the wound could be closed by a second suture. Wounds of a more serious nature were put on the Carrel-Dakin treatment. In cases of shock transfusion of blood was employed and, as volunteer doners were recompensed by a three weeks' sick leave in England, there was always at hand an abundance of fresh blood. When an anesthetic for short operations was needed the De Page method was employed. A mixture of ethyl chlorid, chloroform and ether, about 2 ounces in all, was poured on a flannel pad and closely applied to the nose. The anesthesia was complete in one minute and lasted from three to five minutes; it could be continued if necessary by ether alone. Dr. Stewart then went into detail concerning the various surgical conditions met with; he said the advances made in the treatment of fractures, especially with reference to splints, was greater than in any other branch, with possibly the exception of the Carrel-Dakin treatment of wounds. The roentgen ray was made use of freely in order to control proper union of the bones and in diagnosis.

Both Dr. Condit and Dr. Stewart were with the British army for over eighteen months and saw active service at the front.

At the conclusion of the meeting Dr. and Mrs. Baker served a luncheon. M. V. Ball, Reporter.

THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

VOLUME XXII
NUMBER 9

CHICAGO, ILL., AND ATHENS, PA., JUNE, 1919

SUBSCRIPTION:
$2.00 PER YEAR

ORIGINAL ARTICLES

AN EXPERIMENTAL STUDY OF ABDOMINAL ADHESIONS *

MOSES BEHREND, A.M., M.D.
Surgeon, Jewish and Mt. Sinai Hospitals
AND
NORMAN S. ROTHSCHILD, M.D.
PHILADELPHIA

While the experimental prevention of abdominal adhesions and their reformation have been studied from time to time by very competent observers it was thought that some form of mechanical or chemical substance could be used to further our knowledge of this perplexing subject. We have devoted seven months to the study of this problem. While we have not completed our work as yet, our results show that we must surrender, as others have done in the past, trying to obtain an agent that can be depended on at all times to prevent abdominal adhesions. We had many theories which suggested themselves, the result of a large clinical experience of one of us (Behrend). All the theories applied to practice resulted in failure so far as our object was concerned; namely, primarily to prevent adhesions and secondarily to prevent their reformation.

The most popular chemicals in the preparation of the skin were used before operation. Intra-abdominally we employed both mechanical and chemical means but all were futile to prevent adhesions. One chemical applied locally to the field of operation seemed very encouraging in our experimental work. This was a 5 per cent. solution of dichloramin-T in chlorcosane. After its use there was an entire absence of adhesions in four successive cases, a gratifying result in comparison with that obtained with the other substances. Two of the animals in which dichloramin-T was used showed some adhesions but the character of these differed from the adhesions formed following the use of iodin or alcohol. In the four animals in which there was an entire absence of adhesions, iodin was next used in the local preparation. Adhesions promptly developed. After the separation of these adhesions dichloramin-T was swabbed on the intestinal surface and the parietal peritoneum, without, however, preventing their reformation. In this experiment in which the prevention of the reformation of adhesions was the primary object dichloramin-T, while not successful, showed a tendency toward prevention in that the adhesions melted away under slight pressure and probably would have disappeared in time. The ultimate disappearance of adhesions has been mentioned by Corbett in his experiments. Clinically adhesions may disappear even after multiple operations have been done to cure them. In one case operated on a second time for many abdominal adhesions a third operation had to be performed for an ovarian cyst when there was found an entire absence of their reformation.

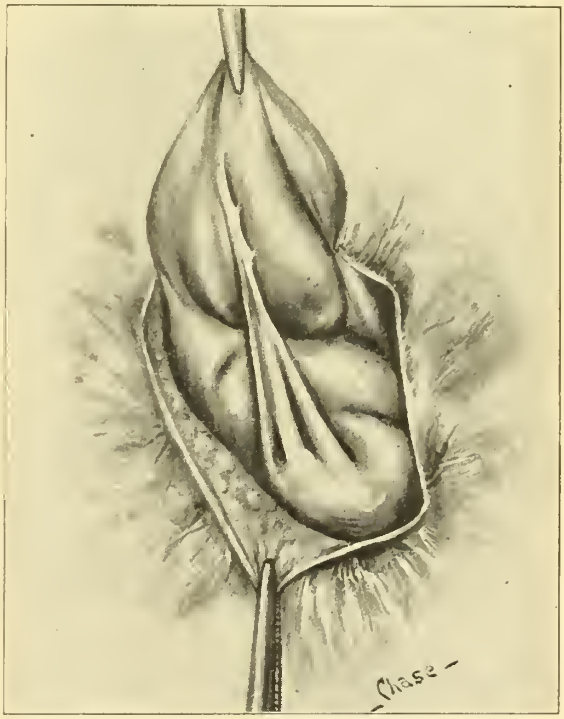


Fig. 1.—Adhesions after using iodin.

Up to the present time we have operated on 30 rabbits and performed 59 operations. Of

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

these, 29 were primary operations and 30 were secondary operations. The technic employed was the same. After complete ether anesthesia the abdomen was prepared locally with one of the chemical preparations the surgeon is accustomed to using at the operating table. In the primary operations tincture of iodin was used 12 times, alcohol 6 times, ether and dichloramin-T 11 times. Ether was applied first to the skin and then dichloramin-T was used. In only one of the rabbits where iodin was used was there an entire absence of adhesions. After the use of alcohol all showed adhesions, while in only two in which we used ether and dichloramin-T adhesions were noted.

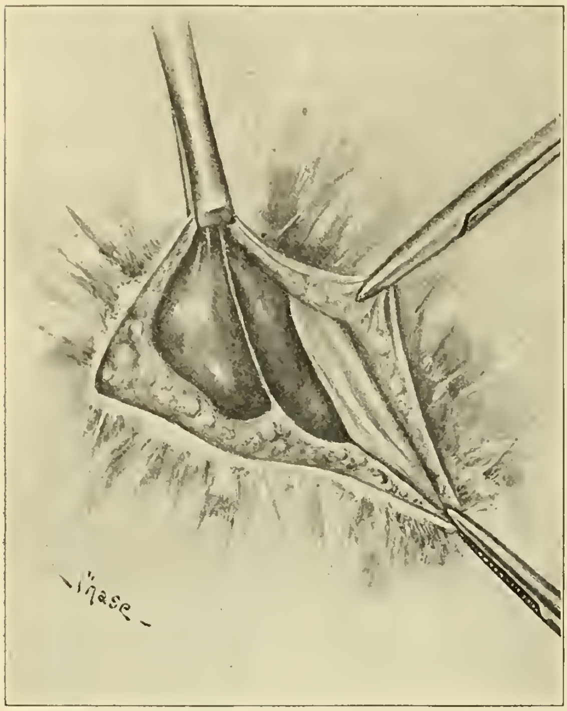

Fig. 2.—Dense adhesions after using iodin. Gut accidentally opened.

The densest adhesions were found in those in which we used iodin (Figs. 1 and 2), in fact at the second operation the adhesion of intestine to parietal peritoneum was so dense as to cause tearing and accidental incision of the gut. After the use of alcohol adhesions occurred in every animal but the character was quite different, they being of a finer quality and more easily separated than after the use of iodin. After the use of ether and dichloramin-T adhesions in one were so filmy in character as to be negligible, while in the other animals the adhesions were firmer and not so easily separated. In three animals we used ether and dichloramin-T locally and then applied rubber dam over the field of operation. The incision was then made through the rubber, eliminating skin contact altogether; after opening the abdomen a rubber roll was used to wall off the intestines in two cases and a dry sponge was used for the same purpose in the third animal. One of the animals in the former experiment showed a string-like adhesion which was easily separated; in the latter experiment no adhesions were noted. In three animals dry gauze was used, dense adhesions being found in two (Fig. 3). Wet gauze was also used but the adhesions were not as dense as those following the use of dry gauze.

The foregoing deals mainly with the primary operation. The great problem that now presents itself is the prevention of the reformation of adhesions. Our faith was "pinned" on the use of rubber dam placed between the adherent surfaces after the adhesions had been separated, but it was found that, while the adhesions were prevented from forming again where the rubber dam was placed (Fig. 4.), the plastic lymph that resulted between the folds of the intestine precluded its further use. This amounted to practically the formation of new adhesions (Figs. 5 and 6). The use of mechanical sub-

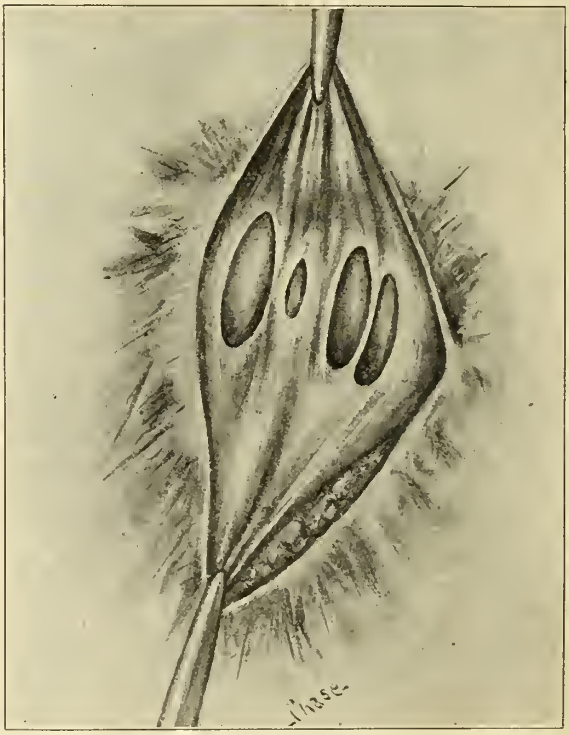

Fig. 3.—Dense adhesions after using dry gauze in abdomen. Gut opened.

stances is not new in the prevention of adhesions. Cargile's membrane and Prime's celloidin have been used with practically the same result as we obtained.

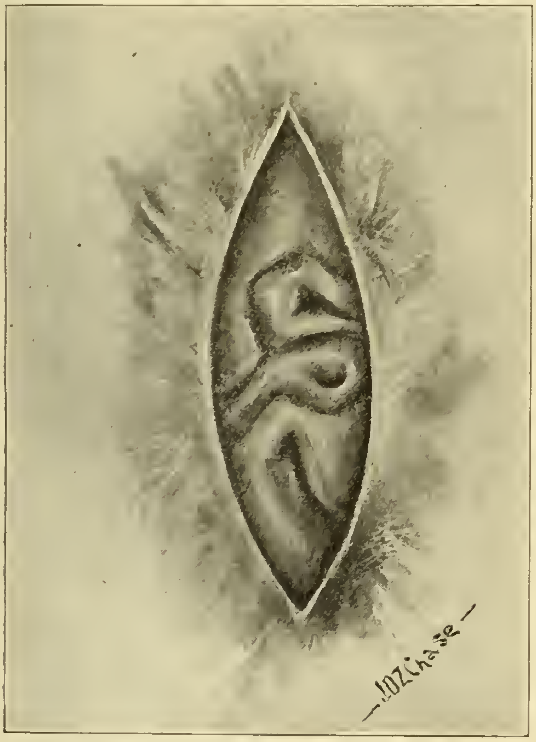

Fig. 4.—Roller curled up covering intestine.

After the mechanical means failed, dichloramin-T naturally suggested itself on account of the brilliant results obtained following the primary operation. The results following the use of this substance dropped in the peritoneal cavity and rubbed on the surfaces where adhesions formerly existed were better than after the use of any other substance. Whether this favorable action is due to the vehicle chlorcosane we have not had time as yet to determine.

Chemical substances of all kinds have been employed to prevent abdominal adhesions without favorable result. Sodium citrate, salt solution, and ether have been tried but cannot be recommended. Hirudin-adrenalin has been used in animals only by Schmidt.[1] Artificially induced adhesions were prevented or at most their formation very much reduced. This has not been tried in man because hirudin would have to be injected on several successive days following the operation. The use of these substances has been given close consideration by Corbett.[2] Those interested in the subject are recommended to read his article with a complete bibliography appended.

Finally, we believe that adhesions are due to mechanical, chemical and infective agents. The ideal condition at operation will have been attained when we can discard the use of chemical substances. We firmly believe that the majority of adhesions are formed as the result of the contact of the sensitive endothelial lining with the various chemicals used in the local preparation. In these days of asepsis infection forms a small minority. The less the abdominal contents are handled the fewer the adhesions which will naturally result.

Clinically, one of us (Behrend) has used dichloramin-T locally in 100 operations from June 23 to Sept. 15, 1918. Of these, fifty-six were abdominal. Enough time has not elapsed to express an opinion concerning the effect of this substance in relation to the formation of adhesions. The fact remains that these cases have had an unusually fine convalescence.

In conclusion, we must admit that there is no substance that will prevent abdominal adhesions absolutely. The use of rubber dam was a distinct failure and must be placed as such in the category with the mechanical substances

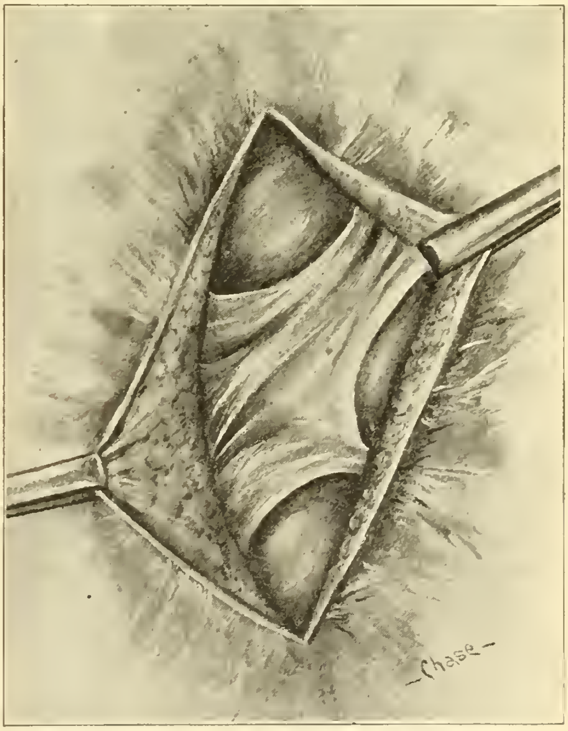

Fig. 5.—Film of adhesions after the removal of rubber dam.

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[1] Schmidt, W.: Archiv f. klin. Chir., 1914, 104, p. 1031.

[2] Corbett: Surg., Gynec. and Obst., Vol. XXV, No. 2, p. 166, Aug., 1917.

mentioned before. Iodin gives the densest adhesions; alcohol 95 per cent. showed adhesions in all animals used; dichloramin-T gave the best results both in the primary operation and afterwards in the prevention of the reformation of adhesions.

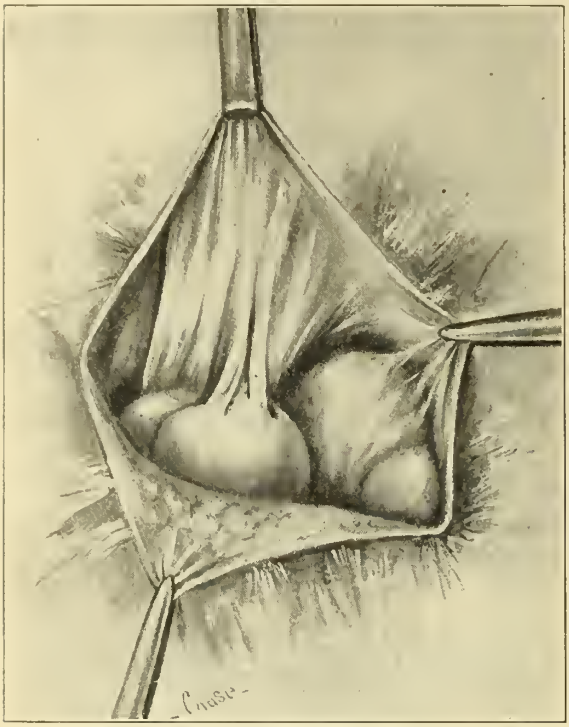

Fig. 6.—Adhesions following use of rubber dam.

1427 North Broad Street.
1832 North Seventeenth Street.

DISCUSSION

Dr. George W. Reese, Shamokin: While the paper shows there has been considerable work and thought nevertheless the authors make the statement in the first paragraph that we must surrender and prove again the veil is too thick. But we must admire and encourage every attempt to penetrate and reach the goal whereby we can prevent this distressing and most obscure condition. What a wonderful thing it will be in surgery when we have definite methods and a certain path to pursue and can say everything that is being done will be verified. Thirty-six years ago, iodin was used extensively; suddenly it was lost for a number of years and only lately has it been revived. Why should there be such a variety and the pendulum constantly swinging when we have a definite subject to work on?

How to explain the connection and the credit given the different chemicals in producing abdominal adhesions is an assumption not founded on any reasonable conviction.

Postoperative adhesions, with their untold results and ever-increasing anxiety, have taxed to the limit the master minds, and up to the present time the cloud is still black. Whether dichloramin-T or any other substance can be put in a more tangible form and thereby make our knowledge more elastic and bring us to not only a solution of abdominal adhesions but of the deeper mysteries in which up to the present time our intellects have failed, it is for the future to reveal.

One of the best ways to prevent abdominal adhesions is to move the patient every few hours.

> Thus nature dwells within our reach,
> But though we stand so near her
> We still interpret half her speech
> With ear too dull to hear her.

AN ANATOMICAL INCISION FOR GROIN SURGERY *

J. NORMAN WHITE, M.D.

SCRANTON

Much has been written about the technic of various hernia and round ligament operations but the incision through the very vascular skin fat and fascia has been copied one operator from another, no thought being given to the anatomy.

The object of this paper is not the discussion of the technic of any hernia or groin operation but to call attention to an anatomical incision taught me by Dr. Reed Burns and used by him for many years, which makes all operations in the inguinal regions bloodless and at the same time has all the advantages of incisions that destroy the veins, arteries and lymphatics.

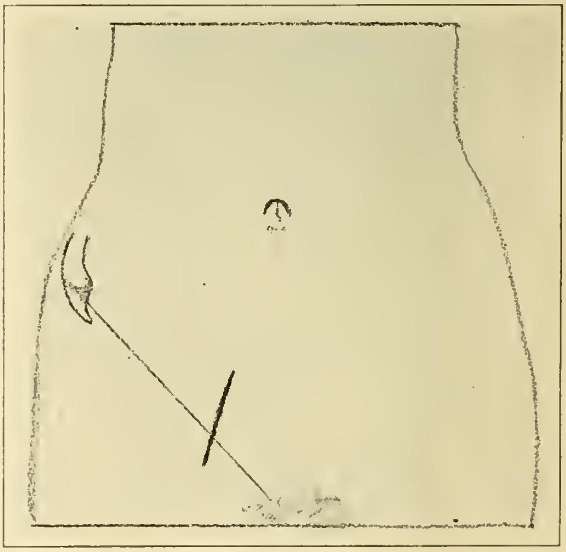

Fig. 1.—The incision.

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

A brief review of the anatomy of the region will show the structures needlessly sacrificed in the ordinary transverse incision.

According to Gray the superficial fascia is divided into two layers between which are the veins, arteries, lymph glands and vessels. There is also much fat. The fascia is continuous with the fascia of the thigh and abdomen. The superficial epigastric artery arises from the femoral about one-half inch below Poupart's ligament passing through the saphenous opening in the fascia lata, ascending on the abdomen in the superficial fascia nearly as high as the umbilicus. This is probably the largest artery cut in the usual incision for hernia. Superficial circumflex iliac artery arises from the femoral, pierces the fascia lata and runs outward parallel with Poupart's ligament as far as the crest of the ilium and supplies the integument of the groin, the superficial fascia and inguinal glands. Superficial external pudic artery arises from the inner side of the femoral, goes through suphenous opening, passes upward, crosses the spermatic cord to be distributed to the integument on the lower part of the abdomen, the scrotum in male, the labium in female. The deep external pudic artery is deeper-seated than above, pierces the fascia lata and is distributed to the genitalia. The viens, somewhat larger than the arteries, accompany the arteries and a separate description is not necessary. The superficial lymphatic channels from the midspine in the back to the midline in front and, roughly, from the rib above to below Poupart's ligament, an area equal to one-sixth of the body surface, drain into the inguinal glands.

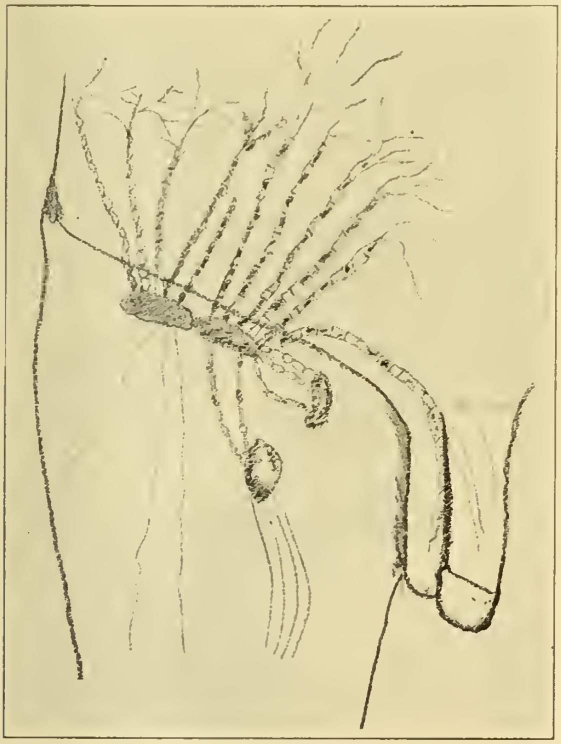

Fig. 2.—The lymphatics.

All the above structures are cut in the transverse incision.

THE INCISION

An incision 3 inches long, three-fourths of an inch external to the spine of the pubes, commencing at Poupart's ligament and at right angles to the ligament and extending toward the umbilicus, gives access at once to the inguinal canal and round ligament and extension downward and slightly inward exposes the femoral ring.

If a femoral has been mistaken for an inguinal hernia or vice versa (and every surgeon of experience has made this blunder, especially in strangulated cases), no new incision is required nor extensive prolongation of the one already made. By leaving the normal blood and lymph supply, infection is made less frequent and the wound never fills with fluid, as often happens with other incisions.

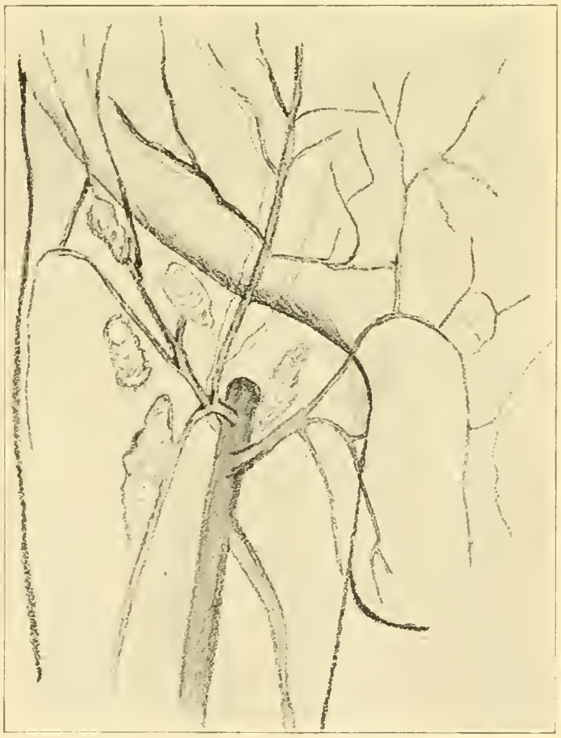

Fig. 3.—Blood and lymph supply of the groin.

ADVANTAGES

This incision has the following advantages: Most important, no blood vessels need be tied because none are cut. It is a bloodless incision. The incision is parallel rather than across the blood and lymph vessels. Leaving the blood and lymph supply intact, infection is less frequent.

Any operation in the inguinal region can be performed through the one incision, including appendectomy.

A common cause of infection is the catgut knot; in the anatomical incision, there are no knots.

DISCUSSION

Dr. Harry C. Deaver, Philadelphia: We can see by the incision that it is more constructive than destructive. In other words, the line of incision runs parallel with the superficial epigastric vessels. The lymphatics which lie parallel to these vessels escape injury, and by retracing the wound it gives easy access to this region. I think the closure of the wound is most important. In other words, we should see that the wound is perfectly dry. I use the smallest ligature possible and I do not grasp any of the perivascular tissue with it; this is important. At the same time I do not draw the suture stitch too tight; this favors prompt healing. I have never tried Dr. White's incision, but it is an anatomical incision and any anatomical incision cannot help but be a good incision.

Dr. T. Turner Thomas, Philadelphia: I had the privilege of talking with Dr. White a few months ago about his incision and since that time I have tried it in about a dozen cases. First as to the disadvantage: We do not get the same free and easy exposure of the canal as we do with the ordinary oblique incision. The novice might have trouble in locating the external oblique ring, but the experienced would not, so that is not an objection. I found that very few, if any, blood vessels were divided and I thought that because the blood vessels were not divided that the healing ought to be a little better than with the ordinary incision. The effect on me of my little experience has been rather to incline me towards the incision. I think that there is enough advantage in the small number of blood vessels divided to warrant us in using it in spite of the little restriction in the exposure of the field. Now there is just one more point. I have had two cases in the last five or six months, a thick fat layer to cut through, and during the healing I had to deal with them as open wounds. I have heard of fat necrosis as a cause of such disturbances and that it is not due to infection. I do not believe there was infection in either of these cases. I came to the conclusion that the oblique incision in the thick layer of the fat in the groin where there was so much movement in turning and rolling and in getting on and off the bed pan would be enough to prevent primary union in such cases. The two thick wound surfaces would be kept rubbing on each other so that primary union would be impossible. I am surprised that we should get union in any of these cases and I have wondered whether the vertical incision would not help there. There ought not to be the same degree of movement of the wound surfaces on each other as with the oblique incision.

Dr. B. A. Thomas, Philadelphia: The essayist alluded to the value of this incision in cases of mistaken diagnosis in respect to the differentiation of the inguinal and femoral hernia. I think it is fitting perhaps in this connection to call attention to the great value, as far as simplicity and ease and safety are concerned in the treatment of femoral hernia, of the operation of Roget in which he uses exclusively the inguinal incision, and it occurs to me that the utility of this incision, as far as inguinal hernia is concerned, is not so great as the inguinal incision as far as femoral hernia is concerned. I believe the best incision in femoral hernia is the inguinal. It gives opportunity to completely ligate the neck of the sac, thus avoiding predisposition to recurrence. 2. It gives you an opportunity to free the constriction. 3. In cases of necrosis where it is necessary to do a resection you certainly can do far better work through the inguinal than through the vertical or femoral incision.

Dr. White, closing: We never think of putting a ligature on a hernia operation unless we cut blood vessels by mistake. Sometimes we cut blood vessels but no ligatures go with this operation and, as Dr. Thomas said, if the lymphatics are left intact and the blood supply still there this would bring the case to a favorable issue so that we would get union if infection is threatened. So far as being room enough, we have operated on all sizes of hernia and I have never seen a hernia so big that we could not do it through this incision. Another advantage I did not mention was that we do not need to make as long a vertical as transverse incision. Three inches is the longest we ever make. That is one advantage of this incision. We make the same incision for femoral hernia that we do for inguinal; if we want to prolong the incision downward we make no new incision, just make it a little bit lower.

CONCERNING THE ABSENCE OF CLINICAL SYMPTOMS DURING PREPERFORATED STAGE OF DUODENAL ULCERS*

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PHILADELPHIA

My personal experience with the perforative type of duodenal ulcer forces on me the conclusion that by far the greatest number of them are stamped with the same characteristic of absence of symptoms, however much we have grown to rely on a certain group to identify them.

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

Of fourteen patients operated on during the past two years at the Methodist Episcopal Hospital for perforated duodenal ulcers, not even the frequent complaint of digestive disorder is noted in the histories as occurring during their latent period. In none of them were such symptoms as paroxysmal pain, localized tenderness, vomiting, hematemesis, or hyperacidity of the gastric juices complained of. The patients were, with two exceptions, male, ranging in ages from 15 to 70 years, the greater number of them being between 20 and 30. The two females were aged 22 and 26, respectively. None of the patients were chlorotic or anemic and there was no history of burns or scalds or other serious accidents that could have been a factor. In most instances the perforations occurred while the patients were at their usual occupations. In one, perforation occurred during the middle of the night while the man was asleep in his bed.

The cause of this frequent absence of symptoms can be explained only, and I believe satisfactorily, by a study of the mechanical effect of the pathology on the histologic, neurologic and physiologic structures involved.

The familiarity which every one has with the gross anatomy of the duodenum makes such a description by me unnecessary, but a short résumé of its histologic, neurologic and physiologic structure and function may aid in refreshing some of its more detailed features, and justify assignment of mechanical interference to nerve impulses as the cause of frequent absence of symptoms.

Like all the organs in the gastro-intestinal tract, the duodenum is composed of four rather distinct layers, being in order from without inward, the serous, muscular, submucous, and mucous coats. (a) The serous coat does not differ from the peritoneum and is made up of endothelial cells resting on an endothelial membrane. The exudation from this coat makes the sliding of the gut possible since it acts as a lubricant for the peritoneal organs. (b) The muscular coat is composed of two sets of muscles arranged in circular and longitudinal bundles. It is these which, acting together, bring about the peristaltic movements. These muscles are quite naturally involuntary, i. e., nonstriated in character. (c) The submucous coat is composed of connective tissue and contains the larger blood vessels, nerves and lymphatics, from which branches are sent to the mucous membranes and the muscular coat. The glandulâr structure is abundant up until the thirty-fifth to fortieth year. From this on, there is a definite physiologic retrogression of the lymphoid tissue. (d) The innermost, or mucous coat, is made up of four portions. A single layer of columnar epithelium lines the lumen and rest on the basement membrane. These two are supported by the tunica propria, which contains the smaller branches of the blood vessels, nerves and lymphatics. Between this and the submucous coat is the muscular mucosa. This band of muscular and connective tissue aids in the forming and moving of the villi and in the forming of the valvulae conniventes or valves of Kirkring. Immediately beneath the mucous membrane are situated the duodenal, or as they are better known, the glands of Brunner. These are racemose glands lined by nucleated epithelium and communicate with the free surface of the mucous membrane by means of a short duct. The secretion of these glands is clear viscid, and as most other intestinal secretions, alkaline. The exact function of these glands is not known.

The physiologic action of the duodenum is a complicated one and as yet has not been absolutely settled. Like the other portions of the small intestines, it secretes a juice similar to that of the ileum and jejunum but varies from them in certain particulars. At no time is the alkalinity of the duodenum juice as great as that of the other portions, which is mainly due to the reception of the acid secretions from the stomach.

The mucous membrane seems to play a large part in the stimulation of the flow of pancreatic juice, since any excitation of it by means of a mechanical or mineral substance causes an increase of pancreatic secretion. The acid fluids coming from the stomach may act as a factor in bringing about such a stimulation.

A substance termed secretin is evolved in the duodenum following the presence of a precursor called prosecretin. This substance, secretin, can be extracted from the duodenum and when injected into the blood causes an increase in the pancreatic flow.

Owing to its anatomical structure, the duodenum does not play a large part in the absorptive process but is more actively concerned in the proper accumulation and thorough mixing of the pancreatic and biliary juices. Any distortion or alteration in its anatomical formation or position will, therefore, cause a disturbance in its physiologic functions. The presence of ulcerations of the mucous membrane will act as an unusual stimulant of pancreatic juice or on the contrary may, if extensive enough, lessen the area for the production of secretion. Either of these alterations of function must have a great influence on the proper digestive process.

In a similar manner adhesions, which cause a kinking or in any way lessen the action of the duodenum, will undoubtedly cause a change in the proper performance of the duodenal duties.

From the foregoing it can be seen that the duodenum acts more as an intermediate than as a final agent in digestion. It might be called the preparing section for digestion, for it is in the duodenum that the various constituents of the pancreatic juice unite with the food and fit it for digestion. In order that the amylopsin may act on starch, the trypsin on protein, and the steapsin on fats, the proper conditions must be present in the duodenum. The presence of duodenum ulcers which increases the acidity of the duodenal contents must therefore have a deleterious effect on the combination of the pancreatic enzymes with their particular foods.

The nerve supply of the duodenum is limited to the terminations of the solar plexus. The first of these is found between the circular and longitudinal muscle fibers and is called myenteric or plexus of Auerbach. The second is situated more deeply in the submucous coat and is called the plexus of Meissner, or submucous plexus. These plexuses are connected to the vagi and great sympathetic nerves through the celiac plexus and solar plexus.

The intricate communication of the duodenum with the two great portions of the central nerve system by means of the ramifications of the divisions of the solar plexus, makes possible the inauguration as well as the final reception of a multiplicity of nerve reactions, and equally a mechanical blocking of their impulses. By no other means can be explained the direct influence of mechanical stimulation of the duodenal mucous membrane on the quantity of pancreatic secretion.

In so far as the phenomenon of the absence of pain in the preperforative stage of duodenal ulcer is concerned, the nerve distribution offers the explanation in a purely mechanical nerve blocking or an analgesia due to an infiltration of exudate beneath the submucous and into the connective tissue and muscular layers. It seems more logical to assign bacterial infection, which may be of many varieties, as the cause of the septic thrombus or embolus which results in the inflammatory exudate into the tissues. The more usual bacteria are the pus cocci and the bacterium coli, though other varieties may prove equally serious. A degree of inflammation may exist from slight catarrhal to that of gangrenous. In the simple or catarrhal form where the inflammation is limited to redness and swelling of the mucous membrane only and therefore great pressure is not exerted, pain and a disordered digestion may exist, but where there is an infiltration beneath the submucous into the connective tissue and muscular layers, then the outpouring and retention of secretion promptly blocks nerve impulses, producing complete analgesia. This blocking is shown by the presence of small ecchymoses found throughout the indurated area about the ulcer which leads to loss of substance by erosion. The constant pressure produces atrophy of the special elements of the mucous membrane followed by hypertrophy of the connective tissue; thus, at operation a wide area of indurated tissue is usually found extending far afield of the site of perforation, involving at times the larger part of the wall of the duodenum. It is probable, then, that the sudden inrush of secretion to the submucous and connective tissue promptly blocks the nerve impulses and, because of the absence of drainage, continues the analgesia until the further changes of hypertrophy and contracture of the tissues makes it permanent.

From an anatomic and physiologic viewpoint, the arrangement of the nerve supply in close relation to a rich glandular supply in the submucous layer of the duodenum is doubtless a great advantage. From a pathologic standpoint, however, it would seem unfortunate, for it robs the clinician of his means of determining before the calamity the existence of ulcer of the perforative type, as the sudden inflammatory outpouring of secretion from the rich glandular supply of the submucous layer promptly destroys the nerve impulse. This absence of symptoms, then, is neither indefinite nor occasional but infinite and usual, making it clear that after perforation mortality will be proportioned to the promptness of recognition and operative treatment.

1222 Spruce Street.

DISCUSSION

Dr. Frank Alleman, Lancaster: The series of cases of duodenal ulcer without preperforative symptoms seems unusual. It seems to me that we must have some symptoms at some time in some of our cases. In the 1915-1916 report of the Mayo Clinic is shown a series of 275 cases of duodenal ulcer;

82 per cent. showed duodenal ulcer syndrome, 8 per cent. showed a gastric ulcer syndrome and of the others the symptoms were indefinite. There is no mention made in the Mayo report of acute perforative cases without symptoms. Dr. Smithies of Chicago tells me that he has had the experience of about 5 per cent. perforative cases without preperforative symptoms. About 28 per cent. of cases had preperforative symptoms. Dr. Bassler of New York tells me that of the acute perforative cases that come into the hospitals, probably the majority of the patients have had no preperforative symptoms, but some of them had at some time exhibited or given in their histories some symptoms of digestive disturbance. Now the cardinal symptom absent in these cases is pain. What can be the pathology of a lesion that is devoid of pain in the gastro-intestinal tract with a lesion so grave that it penetrates a hollow viscus and causes death? It is quite possible that acute cases are cases of a necrotic character and localized gangrene, which may indeed go on to perforation in a few days. In the more chronic cases in which there is an ulcer with indurated edges, an ulcer of long standing, I do not believe that in the face of these cases we are likely to have perforation without symptoms.

The question of the cause of pain arises and it brings up the old controversy between the two sides of the school, one believing in the acid or corrosion theory of pain and the other believing that pain is due to hypertension, which in turn has been due to hypersecretion in the presence of an acid condition and stimulation or excitation of the pyloric reflex. Now we know that the acid content of the stomach will tend to cause stimulation of the pylorus and the acid contents pass into the duodenum and if there be an ulcer there it aggravates pain or inflammation. On the other hand, if the duodenal content is not maintained reasonably alkaline by its own secretions, the bile and pancreatic secretion in this duodenal content becoming acid, it stimulates reflexly a closure of the pylorus. These were the older theories of pain. Lennander has taught, and his pupils still teach, that the pain is due to a lymphangitis in the duodenal walls. The theory advanced by Dr. Hammond that we have nerve blocking is plausible. I doubt whether it is due to exudation or transudation. I doubt very much whether it is due to pressure. It has been shown by Cannon, and others who are quoted in Cannon's book, who separated the plexus of Meissner, mucosa and submucosa, that he separated the circular and longitudinal coats and showed that the peristalsis went on without the plexus of Meissner. There is an intrinsic innervation of the intestine which at times acts entirely independent of the extrinsic. That would account for some of the cardinal symptoms in duodenal ulcer.

Dr. Moses Behrend, Philadelphia: It is my experience that many cases of perforation give no symptoms. These cases usually occur in men who are working and are suddenly seized with this terrific pain that overcomes them as the perforation occurs. But on close questioning of these patients a history usually of gastric disturbance, commonly called "indigestion," is received and it seems to me that if the history were gone into more fully in these cases a gastric or duodenal disturbance would be found in many of these patients.

Dr. John J. Gilbride, Philadelphia: We know that the history of duodenal ulcer is one of cycles, so to speak. As Moynihan pointed out to us, the symptoms recur mostly in the spring and fall. Up until Moynihan had shown that these cases can be diagnosed we were practically unable to diagnose them at all. Moynihan gave us something tangible to work on, During the interval of these attacks, are the ulcers healed? I do not believe they are. I think, too, as Dr. Hammond's experience has shown that it is not uncommon for us to have cases of perforation without any preperforative symptoms. Vomiting is rare in duodenal ulcer. So is hematemesis rare in duodenal ulcer. About the only symptom one could rely on would be pain. Hyperacidity is not at all diagnostic. Examination of the stool, that is the finding of occult blood, may be of value. I found in one case of my own a few years ago a man with a healed duodenal ulcer and he gave the same symptoms as a case of active ulceration. I made a diagnosis of healed ulcer. The man had hunger pain, he had hyperacidity, he has a history of having had trouble for twenty-five or thirty years. Repeated examination of the stool did not show the presence of occult blood. On that ground I made the tentative diagnosis of duodenal ulcer and that it was healed. Roentgen-ray examination showed some irregularity in the outline of the duodenum. Gastrojejunostomy with plication of the pylorus produced a cure and he has remained well for some years.

Dr. Donald Guthrie, Sayre: Some ten or eleven years ago, when I was working as Dr. Graham's assistant in Rochester, he became interested in this problem, viz., to try to find out if there is any change in the clinical symptoms during an attack in which perforation took place from the symptoms of former attacks. We were surprised to find that it was impossible to get an early history of ulcer in many of our cases that had perforated. Our results were so confusing that nothing was done with the problem.

Since I have been at Sayre I have endeavored to investigate this matter further, and I am impressed with the fact that a large percentage of the cases that perforate do not give any early history of ulcer.

Dr. Hammond, closing: Diversity of opinion does not arise from the fact that some of us have a larger share of good sense than others but rather because we direct our thoughts along different ways. Hence we do not arrive at the same conclusion. Dr. Alleman has reminded us of the physiologic way. Cannon's thought was entirely away from the pathologic viewpoint. In selecting a subject for this paper I asked myself what sort of affections during the last year or two on which I had been working seemed most obscure in behavior and therefore of greatest interest, and I concluded that the invariable absence of pain in the perforative types of duodenal ulcer was clearly most so; the resultant investigation into the actual pathology that we found at the time of operation at once impressed forcibly the true condition of nerve blocking of which the paper sets forth. Why is that true? It must be clear to those who reflect over the occurrence of inflammatory processes and its action in loose tissue. We have here, as I have attempted to state in the paper, certain structures that are plentifully supplied with nerves and with blood vessels and with the lymphatics. Others sparsely so. The moment you have an infective process that extends deeper than the surface an infiltration and retention of the exudate into these tissues immediately blocks all nerve impulses if they can be blocked and it is my belief that you can produce general analgesia by pressure, as evidenced by injection of salt solution beneath the skin for local operations. If you study the pathology of the perforative types of duodenal ulcer you will find that not only is nerve function blocked, but the blood vessels and lymphatics as well, hence necrosis and perforation follow. When infection is limited to the mucous surface only redness and edema result. Here nerve blocking does not occur; hence pain is a prominent symptom, but perforation does not often occur as the blood supply is at no time seriously impaired.

A MODIFICATION OF THE TECHNIC IN THE WATKINS INTERPOSITION OPERATION

DESIGNED TO PERMIT FUTURE CHILDBEARING WITHOUT COMPLICATIONS *

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There is no more difficult problem in gynecology than the cure of large cystoceles in young women, in whom further childbearing is to be expected. The moderate cystocele is not much of a problem, particularly that which follows a spontaneous labor. Here, if it is large enough to cause symptoms, almost any of the denudations of the anterior wall, which go wide enough to catch the retracted fascia, will give a symptomatic cure. But the very large cystocele, with usually considerable prolapse of the uterus, is a very different thing. The deformity is most often the result of a difficult forceps delivery, particularly after axistraction forceps delivery, and all attachments of the anterior and lateral vaginal walls are stripped loose by the drag on the head. In these cases the ordinary operations for cystocele are sure to fail. Even if a temporary good operative result is obtained, recurrence after subsequent delivery is certain to occur, usually in an aggravated form. The only operation to be depended on in such cases is the one known as the Watkins-Wertheim-Freund operation of interposition. In the patient in whom further childbearing is not to be expected, whether because of her age or because she is sterilized at the time of operation by section of the cornual ends of the tubes, the operation in its original form of extreme anteversion of the uterus gives splendid operative and symptomatic results. But its original form is not adapted for use in the young woman, in whom future childbearing is desirable and to be expected. The author has used for some years a variation of the technic of the original interposition operation, designed to permit future childbearing, and with which he has had reason to be satisfied, both from the standpoint of immediate operative result, freedom from difficulty in future labors and particularly lack of recurrence after labor.

The first case in which the modified operation was done was one in which its performance was dictated by necessity. The patient was a woman of twenty-seven who, as a result of axistraction forceps delivery three years before had developed a total prolapse of the uterus, with a huge cystocele. She had been operated on a year after her delivery, but only a ventrosuspension of the uterus had been done and no plastic operation whatever. The result was naturally a ghastly failure, and within a month after the operation, her prolapse was as bad as ever. My intention was to do a regular Watkins interposition operation along with the other plastic work and, by cutting the tubes, make further pregnancy impossible. After opening the anterior vaginal vault, I found the suspensory band of the uterus was too dense to permit of the uterus being delivered through the opening. When I attempted to cut the band to free the uterus, I discovered that two loops of small intestines were tightly adherent to the band, so tightly that because of the limited room I did not dare cut it for fear of cutting the bowel. I was forced therefore to finish the operation by the technic shortly to be described. After the completion of the operation, I did an abdominal section, to free the loops which I was by no means certain I had not injured in my attempts to free the uterus from below. On inspection of the pelvis, I was astonished to see how normal were the relations of the uterus and bladder. Except that the bladder extended slightly higher up in the anterior uterine wall than usual, no obvious change could be noted. So normal was the appearance, that it seemed impossible that such an anatomical relation could be the cause of the difficulty in future labors, and I determined on a further trial, with results that will be given at the end of the paper.

Technic of Operation.—1. The patient is prepared as for any vaginal operation in the dorsal position. 2. The cervix is pulled down by a volsellum, and the anterior vaginal mucosa separated from the bladder by the usual upside down

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* Read by Dr. G. V. Janvier before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

T-incision and dissection back of the lateral flaps. It is important that the retracted vaginal fascia be dissected off with the mucosa, and not left adherent to the bladder wall. 3. The uterovesical ligament is cut, and the bladder pushed up as in any interposition operation, a retractor placed under the bladder and the peritoneal reduplication caught in a clamp. 4. The peritoneum is opened, the retractor removed and the uterus caught by a volsellum and gently pulled out through the opening in the vaginal vault. Up to this point the technic is identical with that of the regular interposition operation. 5. A rather short, heavy, curved, spear-pointed needle, threaded with No. 3 chromicized catgut, of forty-day durability, catches the fascia in the right side at the upper portion of the vaginal wound (nearest the urethra), passes through the uterine wall, not between the tubes, as in the Watkins operation, but at the junction of the middle and upper third of the anterior uterine wall, and then catches the fascia in the left side opposite the first bite. This refers to the operator's right and left, and not the patient's. 6. Three or four similar stitches are passed, about one-fourth inch apart, working from above downward. 7. The uterus is replaced through the opening in the vaginal vault, and the stitches are then tied from above downwards. In this way the uterus is simply held forward, and is not extremely anteflexed or anteverted, as in the Watkins operation, and is left as an intraperitoneal organ. 8. The excess of mucosa is cut off, to ensure an accurate fit, and the vaginal wound is closed by interrupted stitches of No. 3 chromic catgut, forty-day durability. 9. The patient is then catheterized, to exclude possible injury to the bladder. 10. A stay in bed of at least two weeks is essential, and catheterization for the first four or five days is nearly always required. Some patients do not void naturally until after they are out of bed. The after care is that of any plastic operation.

My experience with this operation now extends over a period of four and one-half years and comprises a total of, up to the present, 141 cases. Not all these cases were of childbearing age, though the majority were, but the same technic was used in all of them. I have seen no primary failures, and as far as I know, none of the cases have required a second operation. Certainly none has returned to me. The results as to subsequent delivery, excluding cases done within the last year, which are too recent for definite statements, are as follows: Of 89 cases, the history of 49 is known; the others I have lost track of. Of the 49 known, 7 have become pregnant. Of the 7, 2 miscarried, due probably to overexertion, of which there was a definite history in each case. Five went through labor at term, one of them twice. Four of the 5, including the one with two deliveries, show a very normal looking anterior vaginal wall; the surgical result is good, and they are symptomatically well. The fifth case has a measure of recurrence. The anterior wall sags considerably, but nothing like the extent of the previous cystocele, but the patient is symptomatically well and insists she requires no treatment. Whether the cystocele will increase in size, it is as yet too early to determine. It seems to be stationary up to the present.

With these results, though the pregnancies have been few in number, I am encouraged to hope that similar success will attend a larger number, and that a forward step of definite value has been taken in what has been, to me at least, a most vexatious problem.

1823 Pine Street.

DISCUSSION

Dr. Collin Foulkrod, Philadelphia: I had hoped that Dr. Hirst would have a chart or two here. I am going to make one or two outlines. Just as the man who discussed the last paper said that anything that is done in the way of abdominal adhesion correction is commendable, so anything that is done in attacking the unsolved problem of how to correct this one form of prolapse that we see so frequently in young pregnant women after their first childbearing (I do not believe necessarily due to forceps delivery) is commendable. So I think we should commend Dr. Hirst for this advance and make a thorough investigation and trial, finding out whether he has not done something that is of extreme value to us.

We have studied for many years the mechanics of the pelvis. From the standpoint of the broad and round ligaments it is traction and sling which hold the ligaments in midpelvis in the virgin woman. The overstretching of these ligaments or tearing away from the pelvic bone and the pressure and tearing away of the ligament in front is necessarily the cause of prolapse. We have all seen levator ani tears in which a perfectly anteverted uterus is retained. In attacking the prolapse we must attack the cause; we then have to repair or regenerate the sling that has been broken. We examine and find two sides, broad ligaments, arteries and veins. We cannot plicate them very well without injuring their blood supply. Then we attack the anterior broad band to which we can do something. Heretofore any attempt at operation or correction has been in the way of drawing it together laterally, not by raising higher up. I am speaking of the childbearing woman, which is the one under discussion, not of Watkins' operation, which is for women beyond that age. In previous operations we have pushed up the bladder; we drew the vaginal walls together laterally but did not attempt to replace the bladder at another angle or plane with the then sufficient support of tissue and anterior wall to hold the uterus in position. I think Dr. Hirst has attacked one of the sides of this tremendous problem of how to replace the sling after it has been torn or pulled away and with great success he has raised it to that point (indicating on the diagram a higher point on anterior wall of uterus). He has by that means tilted the uterus forward. He has pushed the bladder up so that it may rest on the top of the uterus, at the same time giving perfect freedom for action above. He has accomplished it without interfering with childbirth. In the discussion we must admit a gain with anyone who attempts to do such a thing. When his first operation was done he was compelled to make an abdominal incision also. I think the first mistake we make in trying to correct these conditions is to stop with our vaginal work, for stopping here with the vaginal work is only half way. We should go in and make suture line above. Dr. Hirst did that in the first place because he had to. I think it is possibly going to prove true that we will have to add this to the vaginal operation in order to place our conditions above. In the studies that have been made we will have to attack the other ligaments that have been stretched. I think this is an advance and possibly will lead to the study of how to correct the ligaments rather than attacking the levator ani below, which is only a secondary cause of prolapse.

Dr. Moses Behrend, Philadelphia: Dr. Hirst and I are colleagues in the Mt. Sinai Hospital. Five weeks ago I saw him do this operation and since then I have done four of these operations. There is no question as to its value. The immediate result is perfect. It is an ideal operation for prolapses in early married life, or single girls. For women past the childbearing period it has been my custom in the past to do what Dr. Charles Mayo does, a vaginal hysterectomy, bringing the broad ligaments together and slinging the bladder on them, thus making a new floor for the bladder. This operation has also given wonderful results and I have never had a recurrence in the past five years. As it happened, the opportunity to do the operation of Dr. Hirst presented itself and while pushing the bladder up above the fundus of the uterus does not look good at the beginning the effect is really remarkable. There are two things to be cautioned about. One is that the patient must be catheterized more often after the operation than after the Mayo. Again, if you wish the woman to bear children later the first suture must be put in the middle of the uterus and not in the fundus. This allows the uterus to expand when it becomes pregnant again.

Dr. G. Victor Janvier, Lansdowne: I thank Dr. Foulkrod on behalf of Dr. Hirst for his drawing. The suture should be put at the juncture of the middle and upper third and not on top. I am sorry that Dr. Hirst is not here to further amplify and perhaps defend himself. It may not seem scientific to say this, but the "proof of the pudding is in the eating" and I know from personal experience as Dr. Hirst's assistant that he is getting some brilliant results, although I acknowledge all the points Dr. Foulkrod has made.

ACUTE DILATATION OF STOMACH FOLLOWING OPERATION *

JOHN J. GILBRIDE, A.M., M.D.
PHILADELPHIA

Acute postoperative dilatation of the stomach, while not of frequent occurrence, is a serious complication and may arise suddenly in the course of a long-standing dilatation, or in patients in whom it is believed no previous dilatation existed. Acute dilatation of the stomach may and does occur in patients who have not been subjected to operation as well as in patients during operation. Hilton Fagge in 1873 first described this condition.

As to the cause of this condition in the former class of cases, it is believed to be due primarily to some degenerative changes of the gastric muscle following fevers, the dilatation occurring acutely after ingestion of large amounts of indigestible food, or the drinking of large quantities of liquids, especially after those of an effervescing character.

On the other hand, a large group of observers have shown that the condition is also brought about by a constriction of the duodenum against the vertebral column. The constriction is due to a long mesentery and dorsal decubitus which permits the intestine to enter the pelvis, the gut being nearly empty of gas and feces, and the condition being further favored by relaxation of the belly wall; these are the points emphasized by Connor[1] who collected eighteen fatal cases shown by necropsy to be due to mesenteric obstruction.

Acute postoperative dilatation of the stomach may follow any operation, but it occurs more frequently after operations on the upper abdomen; that is, operations on the biliary passages, duodenum and even following gastrojejunostomy which is recommended by some surgeons for its relief. Patterson says he has met with this complication four times; in one case he performed gastrojejunostomy (does not say what the original operation was) with a fatal result. In his three other cases, acute dilatation followed gastrojejunostomy; two of them were after operations for perforated duodenal ulcer and the third after operation for a "trifid stomach"; the latter patient recovered. Patterson says he thinks gastrojejunostomy is contraindicated in these cases.

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* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

[1] Jour. A. M. A., March, 1907.

It is not quite clear why dilatation of the stomach occurs; in some cases the dilatation is the result of septic peritonitis, and a general intestinal distention may accompany the gastric dilatation.

It was formerly believed that acute dilatation of the stomach occurred in abdominal operations only. However, it has been observed after operations on bones, joints, perineum, antrum of Highmore; after fractures, especially after fractures of the femur, fractures of the vertebrae, during suspension and application of a jacket for spinal diseases, etc.

The anesthetic does not appear to cause the condition as cases have occurred when no anesthetic was employed; they have also occurred when local anesthesia had been used. Swallowed air is believed to be a factor in its causation (Woolsey). John Hartwell says acute dilatation of the stomach is a secondary condition due to some entirely unknown factor and states that it does not occur after tying either the pyloric or duodenum. Hartwell cites a case of a child with an injury to the right side of the chest in whom there was, before the operation, an abnormal distention of the abdomen of from 8 to 10 inches; another case where dilatation occurred during an operation, the stomach became greatly distended forcing the intestines out through the wound; the passage of a stomach tube did not relieve the dilatation of the stomach as no gas escaped, but the stomach had to be compressed between the hands of the operator; the operation was completed. Dilatation of the stomach did not recur and the patient recovered. Acute dilatation of the stomach occurred in another patient during operation for injury to the spleen. J. Mayral, Jr., reports acute dilatation of the stomach occurring during an operation for pyosalpinx.

It is difficult to say as to what rôle is played by the nervous mechanism of the stomach in these cases, whether the splanchnic nerves have any part in causing dilatation of the stomach.

Cannon says that stimulation of the proximal end of the pneumogastric nerve produces dilatation of stomach; again, toxic conditions develop rapidly in acute dilatation of the stomach as shown by suppression of urine in some cases, and it has been said that toxemia may be a factor in its causation.

At the onset of acute dilatation of the stomach the stomach becomes greatly distended with gas and it is only later that the stomach becomes filled with liquid; the patient may belch large quantities of gas. The pathologic anatomy of the stomach shows that the degree of dilatation may vary greatly. The stomach distention may be of a character that the greater curvature is at or slightly below the umbilicus, or it may extend into the pelvis, and in some cases, as reported, it may almost fill the entire abdomen. The bulging is mostly in the left side, limited to the abdomen above the umbilicus on the left side in moderate dilatation of the stomach, or the bulging may be largely confined to the lower abdomen, being perhaps more prominent on the left side. Therefore in these cases one should first determine if the stomach occupies its normal position. While the dilatation may occur primarily from duodenal obstruction the great dilatation of the stomach may itself produce obstruction of the duodenum. Pyloric spasm does not appear to be a causative factor.

SYMPTOMATOLOGY

Attention is called to the condition by the onset of repeated vomiting, brought up in gulps without effort and at frequent intervals. The amounts vomited are sometimes enormous, as under the circumstances the stomach secretes a large amount of water. The vomit may be clear, containing a little mucus, or a trace of bile, and of a greenish and blackish hue. It very rarely contains feces. Abdominal distention is present and there may be slight tenderness in the upper or midabdomen. Rigidity is not common. The bowels may be loose in some patients while in other cases neither feces nor gas escape. Splashing sounds are obtainable over the stomach; gastric peristalsis is seldom seen (Connor). The temperature is normal or subnormal; collapse occurs early, and in fatal cases death may take place within forty-eight hours. My personal experience is limited to two cases; these were of moderate severity, recognized early and both patients recovered.

Linke in a study of 173 cases gives the mortality as 57 out of 105 postoperative cases recovered, and 21 out of 68 nonoperative cases recovered.

TREATMENT

Treatment consists first in bearing in mind the possibility of the condition as a complication, then on its early recognition. The stomach should be emptied by using the stomach tube and repeating the procedure as often as necessary. At the same time any food residue in the stomach which adds to the fermentation is removed. It is recommended that patients should be turned so as to lie on face and abdomen, so that if the dilatation is due in any way to constriction by the mesentery and its vessels, this position may give relief. The use of salt solution in gastric lavage has been advised and this may also aid in combating the existing toxemia.

Nothing is given by the mouth. If any drug is given by the mouth I would recommend the employment of resorcin, 2 grains every hour, as I have found this drug of value in aiding the prevention of fermentation. As food particles may remain in the stomach for a long time, even in the presence of gastric lavage, it is next to impossible to remove all food remnants. I consider eserin sulphate, $\frac{1}{100}$ grain administered hypodermatically, of considerable value, repeating the dose as required, combating the collapse by strychnin sulphate, $\frac{1}{30}$ grain hypodermatically every two hours. External heat and gentle massage to the abdominal muscles may aid in restoring gastric and intestinal muscular tone. In a serious case I would be inclined to try a gastrostomy. Gastrojejunostomy does not appear to be of value.

1934 Chestnut Street.

DISCUSSION

Dr. Frank Alleman, Lancaster: I would bear out everything Dr. Gilbride has said. Those who have seen the condition once never forget it. The important thing about acute dilatation of the stomach I think is its early recognition. I will not go into the etiology or pathology of it, for Dr. Gilbride has covered that pretty thoroughly, except that I want to say that a general condition of low vitality will probably be found in nearly all these cases. They are in a condition of a low potentiality and the condition of the stomach wall is probably one in which there is a myasthenic condition of the muscularis. The innervation here is largely involved. This is shown by Cannon's experiments. One of them was to study the action of the stomach of a dog in distemper in which a slow state of tone and vitality was existent and in which the gastric function was at low ebb, or altogether arrested until the splanchnics had been cut, when it at once became active. Dr. Gilbride has spoken to you about the effect of ether in abdominal operations. One of the experiments showed that high intestinal operations, especially on the duodenum, resulted in a stasis of stomach contents for twenty-four hours or more. Now this probably was due to some irritation of the duodenum, irritation of the pyloric area. There is a depressing nervous influence in these cases. I was glad to hear Dr. Gilbride speak of the character of the vomiting. It is not projectile vomiting at first. It is gulped up first in small amounts, gradually in increasing amounts, first colorless or apt to be green, which gradually becomes a brownish-green, and then a brownish vomit. Now as to emotion, I want to mention that I believe shock plays a great rôle in this condition. I believe the shock due to the apprehension or the expectancy of a major operation has a good deal to do with it. I think that starving the patient before operation has a good deal to do with it. I believe that purgation with too free salines is apt to predispose. As to treatment, early recognition is of prime importance. Of course, wash out the stomach and that every few hours. I have seen six cases and our treatment has been that of Dr. Gilbride. I believe we have had favorable results by using pituitrin repeated every three or four hours for several doses.

THE RIGHTS OF THE WELL MEMBERS OF THE FAMILY *

THEODORE DILLER, M.D.,
PITTSBURGH

Among the duties and responsibilities placed on a physician, which are very real and practical and which scarcely receive mention in any of our textbooks or articles of current literature, I think perhaps none is of more importance than that which presents itself in dealing with the needs and rights of the well members of the family in relationship to the sick member or patient. This problem is one which is most important in cases of chronic or lingering illness and presents itself in no other class of diseases quite so forcibly as in nervous diseases. I may best introduce the subject by citing a few illustrative cases.

I was called on to examine a young woman of 25 who was, had been, and always would be an imbecile. The family, in good circumstances, consisted of a father, a most excellent man, a kind, affectionate mother and (besides the patient) three other children, a daughter who has just returned from college and two younger boys, one entering college and the other in high school. As is common and natural in such cases, the mother's greatest solicitude was for the imbecile daughter on whom she had for years showered the greatest care and attention. This imbecile girl in many ways attracted attention to herself and was a constant source of distress to the household, occasionally screaming or yelling and in many ways attracting the attention of visitors. Her presence in the house was a constant cloud hanging over the whole family. Here the thing to do was plain enough, namely, to send the girl away to a proper institution for her own good and that of her mother and sister and brothers. The father at once agreed to the suggestion, but the mother required some persuasion and a little time to come to this point. Finally the thing was ac-

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

complished; the imbecile girl was removed to an institution. The advantage of this removal is so apparent that it requires no argument in this assemblage.

I recall a case of a woman, in humble station in life, who made her living by going out day-by-day doing washing. On each of her trips she took with her, carrying it on her back, an imbecile child, a low grade imbecile. Despite my arguments and attempts at persuasion, I was unable to induce this woman to place her imbecile child in an institution.

I may remark here that in cases of imbecility in families I have many times wished I were clothed with police power to compel compliance with my suggestion, for it seems a great pity and shame that oftentimes the suggestion of a physician for the removal of an epileptic or imbecile, which is plainly demanded for the welfare of the brothers and sisters in the family, is declined by the parents.

A poor woman brings her husband to me for examination. The clinical and laboratory tests agree. The case is a clear one of paresis, although not far advanced. The wife is ready to make any and every financial sacrifice; money must not be considered, although she is evidently in very limited circumstances. The medical and financial situation is pointed out to her; she is warned from the beginning that she ought to husband her forces and not to dissipate them by the expenses of a private nurse and private room, which will eat up her ready resources in a short time. It is pointed out to her that despite her husband's condition, she and her children must continue to live and it will require money to do so.

Perhaps the most difficult of all is the case of the self-centered chronic nervous invalid. Her whole concern in life is herself and her ailments. Nothing whatever else matters. She accepts without questioning the devotion of her husband, her daughter, her son, her sister. The family means are limited; but she herself is so important that no expense in money or service must be spared. One expensive sanatorium after another is tried. The daughter, extremely devoted to her mother, is breaking down under the strain; but this does not matter to the invalid, nothing matters.

I have knowledge of a case of a chronic psychoneurotic, a very bright woman whose father possessed considerable means. She absorbed about all her father's income and besides very much of his time, nearly all of her mother's time and that of a younger sister whose life was practically given up to her. After twenty-five years of invalidism she died deeply lamented by her mother and the sister who survived her, to whom marriage was denied.

And who in this audience does not have knowledge of the chronic epileptic in the family, a constant source of distress, fear and anxiety, overshadowing the happiness of the parents and the brothers and sisters? One having dealings with many such cases regrets that institutions for the disposal of such patients are not more numerous and more varied in their makeup. Many such epileptics are not suitable for hospitals for the insane, nor for institutions for the feebleminded; and private institutions for epileptics are very few in number and in most of them the rate of charge is a prohibitive one.

These cases will suffice to illustrate what I mean by raising the question of the rights of the well members of the family. Unfortunately, oftentimes a physician can do little or nothing to control the situation; but many times he can do a little and sometimes a great deal. The only point I wish to make in this paper is this: that it is the duty and business of the physician to be on the lookout to protect, so far as he is able, the rights of the well members of the family, both as regards the financial situation and as regards their right to exist and to enjoy a reasonable degree of happiness despite the condition of the sick member of the family.

Westinghouse Building.

TECHNIC OF NASAL DOUCHING*

WILLIAM A. HITSCHLER, M.D.
PHILADELPHIA

Babes born bedecked with spectacles first see the light of day within crying distance of Boston Common. But babes born with an atomizer in one hand and a nasal douche bulb in the other are subject to no such local limitations; they are truly ubiquitarian.

There may exist in this broad land of ours a bathroom whose shelf boasts not of an atomizer, or some sort of nasal douching apparatus; for the American citizen numbers among his inalienable birth rights the privilege of douching his nose, whenever and howsoever he wills.

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

It is a universal practice among the laity and an almost universal prescription among the medical profession. With not a few of the laity it is attended with all the worship of a panacean fetish. And if the phraseology of George Ade will not subject our scientific sensibilities to too great a shock, it might be truthfully stated that at times it is a convenient method of "side-stepping" the responsibility of diagnosis and therapeusis.

We shall pass by any consideration of the indications and contraindications for nasal douching and simply express the opinion that, when indicated and properly done, it is of considerable service and, at times, indispensable. Moreover, douching sometimes reveals the presence of discharge wholly unsuspected by anterior and posterior inspection; and in the diagnosis and treatment of nasal sinus disease it is an absolute necessity.

When excessively, indiscriminately or improperly done, it may be prolific of harm, especially in acute infections. The possibility of otitis media with all its complications being induced by faulty douching is well known. But it must be emphasized that it is not the use but the abuse of douching to which objection is made, abuse in the sense that not only is it too often done by the patient, but that it is often done *wrongly* both by patient and physician. Frequent and unnecessary douching robs the mucosa of its normal protecting mucus and creates a condition which prolongs rather than retards disease. Many cases of alleged "nasal catarrh" have been completely relieved by simply instructing the patient to abandon the practice. In these cases the patient usually experiences a sense of obstruction which, however, is due to a dryness of the mucosa brought about by the removal of normal mucus; and the momentary relief afforded by the douching solution is the lure which so often hoists the patient "on his own petard."

The douching habit has the same temptation as the morphin habit; there must be something enticing about it else it would lack devotees. If the morphin habit dulls the morals of the victim, then might be said the douching habit dulls the logic. This is illustrated in a marked, though typical, case. The patient had a history of a postnasal discharge and, in her own language, "was growing worse in spite of the fact" that she had been using an atomizer six or eight times daily for the previous two years. In some cases of alopecia capitis the patients have used hair tonics even longer than that. And "faith," as the schoolboy said, "is believing what you know ain't so." That patient was stating the truth, but her reasoning was fallacious and superficial. Sometimes truth lies at the bottom of the well; and sometimes truth merely lies.

The practice of douching the nose is a thing so common that no patient and apparently but few physicians appreciate the principles involved and the wisdom of careful technic.

With the exception of atrophic rhinitis, and some cases of sinus disease, prudence seems to contraindicate the practice of self-douching.

The technic of nasal douching is based on physical principles. The wisdom of having sufficient space for the outflow of liquid is evident, and is the keystone of the arch of technic. That such space exists it is necessary that the nasal fossae be inspected by good illumination. This can be accomplished only by the use of the head mirror and reflected light. When inspection demonstrates that the nasal fossae are not free, the next step is to contract the mucosa and its cavernous tissue by the proper employment of adrenalin or cocain or both. This will require a few minutes, in some cases ten or more. With both fossae now as free as possible, and with at least one side sufficiently free to permit the outflow of solution, the anterior or posterior douche, or both, may be employed. To avoid deglutition during douching, the mouth of the patient should be kept open, and to further avoid entrance of the solution into the eustachian tubes, the capacity of any apparatus should not exceed 4 to 6 drams.

The Anterior Douche.—A rubber bulb or a syringe with an easily removable and slightly curved tip may be used. In employing the rubber bulb the patient's head should be held forward and downward and the mouth kept open. If both fossae are equally free the fluid may be introduced gently into each side, one after the other; if one fossa be appreciably narrower than the other the fluid should be introduced into the narrower side only. In using the syringe anteriorly, if the tip be sufficiently long, the douching may be done under the usual illumination, and secretion adhering to certain areas is thus more easily loosened and washed away. Particular attention should be directed to the floor of the nose and the inferior meati where secretion may lie unobserved even on close inspection.

The Posterior Douche.—This consists of a syringe with an easily removable hard rubber tip, bent at right angles, about three-quarters of an inch from the end. With the head of the patient erect, the tip should be introduced behind the soft palate and the fluid gently injected into the nasopharynx. The patient is then directed immediately to bend the head forward and downward and the solution allowed to run out of the nose. If this precaution is not followed, some of the solution may reach the larynx and cause a paroxysm of coughing.

With young children and infants it is impractical to use the postnasal douche. Here the anterior douche with the rubber bulb is of service. Some additional help is usually required. In the vast majority of the instances the child cries. This is no hindrance to the accomplishment of the douching; rather, a help. The fluid should be introduced at the beginning of the expiratory cry, for then the mouth is widely open and the soft palate firmly held against the postpharyngeal wall.

It is thus seen that the procedure requires some time for its performance, and that a little rhinological skill is desirable. It is also evident that neither patient, parent nor nurse possesses the necessary technical qualifications; and it is small wonder, when practiced with unskilled hands, that otitic complications may develop.

The character of the solution is of some importance. For many ages past strong alkaline solutions have been employed. It is true that an alkaline solution will dissolve secretion more efficiently than one that is neutral or acid; it will also dissolve normal mucus more readily, and that is just what we wish to avoid. The more normal mucus removed the less is the protection afforded the mucosa. The physical force of the flowing liquid is usually sufficient to remove secretion, and by employing a neutral, or better still, a slightly acid solution, more of the normal mucus is preserved. The solution should be pleasantly warm, and the final but important step is the oily spray to act as a protection to the mucosa until normal mucus may again be secreted.

The reason for discussing this subject, even at short length, has been the lack of precise directions for the douche in many textbooks. While not familiar with every textbook on rhinology, there is no recollection of one where the author does not presuppose a knowledge of technic on the part of the reader. And yet, by actual experience, it seems there are but few medical men in general practice to whom such knowledge is at all familiar. In many cases of acute illness, with the patient confined to bed, and where there is simultaneous involvement of the nasal passages, as in measles, influenza, etc., a good nasal cleansing gives considerable comfort, and is, at least, of local therapeutic service. The patient, little or big, is usually grateful.

At a meeting of the Philadelphia County Medical Society last winter, the statement was made that not one medical man in ten knew how to douche the nose properly. Whereupon a colleague supplemented that statement by the amendment "not one in a hundred." Perhaps he said "thousand," I am not sure.

However, one does not wish to be dogmatic in the expression of an opinion; and there is no contention that the above described method of nasal douching is the only reasonably safe method that may be employed.

Sixteenth and Walnut Streets.

DISCUSSION

Dr. Kate W. Baldwin, Philadelphia: Dr. Hitschler has covered his subject so thoroughly, according to our past teaching, that it remains only for me to emphasize what he has said. The longer I am in the work, the more I feel that douching and improper cleansing of the nose has done more harm than good, although I quite fully appreciate in some cases it is necessary. The last statement of the essayist is true; few professional people know how to use the douche properly, much less the mother and the attendant. My feeling is that unless there is a chronic sinus condition with very good drainage or a case of atrophy with a great amount of secretion we would do better by our patients if we did not allow them to use the douche at all. If they need the douche they need somebody skilled in the use of it. In place of the douche we may use some heavy oil application, plain vaselin or carbolized vaselin, and if the indications are such, some medicated ointment. If this is used in connection with the dry feeling which one gets after sitting in a room like this or in the movies or street cars we will find that the ointment introduced will relieve it almost instantly and I think prevents the germs multiplying to the extent of eventually terminating in a cold or some sinus trouble. I would not depend on a douche in cleansing the nose.

I remember years ago we considered it a test of a person's ability to see the different parts of the nose if they cleaned up an atrophic case so you called it clean, and no crusts were present. It is best to use your postnasal douche first. The ordinary catheter end is much better because you then go up without douching the soft palate. If you undertake to go up with one of the large ends and you touch the soft palate your patient contracts the muscle and you practically force your instrument instead of letting it go quickly without touching anything. I have seen patient's noses made to bleed many times by that. I remember only a couple of years ago of being in another part of the country and happening to be present one morning when one of the very first specialists of the town was treating a case. Really he went into the postnasal space with cotton on a probe (it was half as large as my little finger) and attacked the patient by force. That man did more harm to that postnasal space than by not touching it at all. I think the abuse of all these things is quite frequent. We do not intend to abuse them. There was one doctor at the Polyclinic about whom the patients used to say, "Please, doctor, don't send me to so and so. He treats you as if you were a horse or a cow." That man came to me one day and asked me to touch up his postnasal space. "Doctor," I said, "do you want me to do it as you do it to your patients, or do it as carefully as I can?" and he said, "Do it as carefully as you can." I think there are few who know how to douche a baby's nose, but if you put them on the lap with the head well back or turned to one side you can usually accomplish it with very little discomfort.

With regard to the patient's head, Dr. Hitschler particularly mentioned that when using the postnasal douche the head should be tipped forward as we remove the syringe. It is very important also to keep the mouth open until the solution has run out; otherwise the patient will close the mouth, take an inspiration, and down his throat goes the solution.

I would again emphasize the fact that except in very rare cases the nasal douche used by the patient does more harm than good and to undertake to clean an infected or atrophic case with a spray is absolutely senseless. You cannot use enough water.

Dr. Lewis H. Taylor, Wilkes-Barre: I agree fully with what Dr. Baldwin has just said in regard to abolishing the nasal douche as far as the patient is concerned. Now if we would go one step farther and abolish it from the hands of the doctor we will cover the whole subject. You have all seen the illustration in magazines of a young lady using a duck-shaped nasal douche to advertise a certain popular preparation. I keep one of these douches in my office to show the patients, and tell them to avoid using it. Regarding the use of nasal douches in little children, to wash out the posterior nares, I believe it does more harm than good and I believe as a rule there are very few cases where it is necessary. Dr. Baldwin said only one doctor in a hundred knows how to use the nasal douche. Only one patient in a hundred needs it. I would abolish the douche altogether except in a very few limited cases such as ozena. We find very frequently the laity suffering from ear trouble. I ask the patients if they have taken any treatment of the nose or been washing the nose, and, if they say yes, I say, don't do it again. It oftentimes causes a great deal of ear trouble.

Dr. Hitschler, closing: In condemning self-douching we should find some substitute, and the ointment mentioned by Dr. Baldwin is of much service. An instillation of liquid petroleum, with 1 grain of menthol to the ounce, may also be employed—warmed, of course. Dr. Baldwin referred to various kinds of postnasal douches, and, no doubt, some of them are harmful because they are not the right kind. This (exhibiting syringe), known as the Freeman syringe, has a tip much like a eustachian catheter. I cannot agree altogether with Dr. Taylor that we should not douche the nose at all; in treating the nose I believe we should have a clean mucosa. Nor have I observed any ill after-effects in the proper use of the douche in a period of over twenty years.

THE INDUSTRIAL EFFICIENCY OF THE SOUTHERN NEGRO

CONCLUSIONS BASED ON THE PHYSICAL EXAMINATION OF OVER 500 UNSKILLED LABORERS

WALTER C. ALLEN, M.D.
CHICAGO

This paper is based on the physical examination of 544 candidates for positions as unskilled laborers. The examination was conducted at the height of America's preparation for participation in the great world war drama. As showing the condition of the labor market at that time, it may be noted that over 95 per cent. of the candidates were negroes, and over 75 per cent. of them were from states south of Mason and Dixon line, mostly recent importations.

There is no question but that the infiltration of northern labor centers, such as Philadelphia, Pittsburgh, Baltimore, New York, Buffalo, Detroit, Cleveland, Cincinnati, Chicago, Indianapolis and Minneapolis, from a medico-industrial point of view, is a question of grave concern, especially since the morbidity and mortality rates among these negroes are very high. The opportunities for these negroes are so much greater in the North than in the South that it is doubtful if many of them will return to the South. They introduce a new and permanent health problem for northern health authorities, especially in the fields of the prophylaxis and treatment of venereal diseases, the care of the tuberculous, child hygiene, mental hygiene and the care of pregnant negro women.

Each candidate was first given a "sack test." He was required to lift a sack of books and papers, weighing upwards of 125 pounds, to his shoulder and carry it across the room. About 5 per cent. of the men failed in this test. Of the 518 men who passed the "sack test," 65 failed in the physical examination and 453 were passed. It may be said that syphilis, aortic valvular disease, extensive dental caries, chronic gonorrheal urethritis and flat feet were found present in such a large number of cases that these conditions, in themselves, were not considered sufficient to bar a candidate from work.

Vitiligo was found sufficiently often to attract attention. In each case, signs or a history of syphilis were obtained, but this may have been mere coincidence. A special search for epitrochlear lymphadenitis was made, and, in thirty cases of old syphilis, large epitrochlear glands were found in twenty-seven cases. Two cases presented very marked femoral lymphadenitis, and in these two cases both tuberculosis and syphilis were found.

One of the remarkable findings was the unusually early appearance of signs of arteriosclerosis in the negro. Arcus senilis seemed to be the rule, rather than the exception, in negroes over 35 years of age. It occurs so often and so early in the negro that one hesitates to give it value as an indication of arteriosclerotic and senile degeneration. Yet it is a fact that physical degeneration occurs much earlier in the negro than in white men. The examination of the heart and arteries, however, presented decisive evidence that in negroes, between the ages of 35 and 40, arteriosclerotic changes are surprisingly frequent, as shown by impaired transmission of the first sound or total failure to transmit this sound, cardiac hypertrophy, aortic insufficiency, and hardened arteries. Negroes of 35 had the appearance of men of 40. It was also interesting to note that, when the age of 40 was reached, the number of negro laborers diminished very rapidly. This was interpreted as meaning, in part, that the negro does not live as long as white men, and, certainly, that his industrial efficiency after the age of 40, as compared with that of white laborers, is greatly impaired. We know that the life cycle (birth, growth, maturity and senescence) in the tropics is shorter than in the temperate zones. The negro, of course, is a creature of the tropics, a matter which may have some remote bearing on the problem. It was also noted that the arteriosclerotic changes were more marked and appeared earlier in those negroes in whom definite signs of syphilis were present.

One out of every three men examined had well-marked disease entities, mostly of a chronic degenerative nature. One out of every six men presented evidence of old syphilis. This is a minimum figure, too, as undoubtedly many cases escaped detection. Speed being essential, no Wassermann tests were performed.

When one considers that over 90 per cent. of the candidates were under 40 years of age, and that one in every eight men possessed prominent cardiac lesions, the matter is one to arrest the attention. Of course, being in the war period, it is possible that many of them had already been rejected by the army. Out of the 62 cases of cardiac disease found, 56 cases, or over 80 per cent., might properly be classed as due to syphilis and arteriosclerosis as primary factors. Of these 62 cases, 44 were classed as of the type of aortic insufficiency and aortitis, syphilitic heart lesions par excellence.

The Pignet formula, being an estimate of strength by comparison of height, weight and chest measure during expiration, has had considerable vogue during the great war. It was worked out on some of these candidates. The impression received was that it furnishes, at best, little, if any, more information than that furnished in standard tables of normal weight for given heights. Certainly it is valueless, if not misleading, in the case of men with cardiac lesions.

Defective vision was found to be an important disability in negroes. Very defective vision was found in twenty-nine cases, all in negroes, among the 518 men. Four men had artificial eyes, two had corneal opacities, nine had cataracts and the rest had very defective vision of undetermined nature. Hernia was present in 2 per cent. of the cases, and obesity sufficient to constitute a disability for working was found in 2 per cent. of the cases also. About 20 per cent. of the cases had minor degrees of varicocele, and 5 per cent. of the cases had varicocele of sufficient size to indicate operation. Only two cases of marked scoliosis were noted.

The general muscular development of the negroes was found to be surprisingly good. On the other hand, they seemed to have been hard hit by tuberculosis and syphilis.

4141 Clarendon Avenue.

INFANTILE HEMATEMESIS

WITH A REPORT OF A CASE OF UNUSUAL ORIGIN

J. D. LEEBRON, M.D.

Assistant Pediatrist to the Postgraduate School, University of Pennsylvania, Polyclinic Section; Assistant Pediatrist to the Samaritan and Garretson Hospitals; Pediatrist to the Hebrew Orphan's Home, etc.

PHILADELPHIA

J. R., aged 5 weeks, white, weight at birth 8 pounds, full-term normal delivery, and breast fed.

One morning immediately after his first nursing he vomited a bloody, streaked vomitus. Half an hour later warm water was given him in a nursing bottle. No sooner did he swallow some of it than the rest of the water in the bottle turned bright red in color, which was possibly caused by some blood regurgitating into the bottle, while he vomited up a bloody fluid. The family history in this case was negative. The child was a blue baby at birth, but has given no trouble since. He was circumcised on the eighth day of his life because of religious rites and he made a good recovery. He gained 14 ounces in four weeks, which is about as much as the average breast baby should gain, but the circumcision probably caused a loss in weight at first.

In considering the etiology of hematemesis in infants, the writer wishes to point out the importance of breast milk as a cause, which he believes to have been the etiologic factor in this case.

Among the causes likely to produce hemorrhage from the stomach the following must be considered: (1) Syphilis; (2) ulceration of the stomach; (3) medication; (4) purpura fulminosa; (5) hemophilia; (6) scurvy; (7) accidental causes; (8) ingestion of bloody breast milk.

The well nourished condition, normal development at birth, no rashes, no sniffles and no previous earlier gastric hemorrhages excluded syphilis. The lack of a previous history of vomiting or other gastric symptoms, and no succeeding hematemesis ruled out the presence of gastric ulcerations. No drugs whatever were given the baby, so that this could not be considered as a source. In purpura fulminosa there are profuse hemorrhages from the stomach, from the mucous surfaces and from the skin, which were absent in this case. Hemophilia was excluded because the hemorrhage was not persistent and there were no evidences of it at the time of the circumcision, when the bleeding was slight and not more than occurs with the average healthy baby. The facts that this baby was breast fed, did not cry when it was handled, had no visible hematomas, being well developed and fully nourished, excluded scurvy as the cause. The accidental hematemesis may be due to swallowing of foreign bodies or of blood; to a fall or a blow causing injury to the nose, mouth or even the pharynx if sufficient blood is swallowed to cause vomiting; to the presence of a foreign body in one of the nostrils, or to nasal hemorrhage not caused by injury. All these were excluded by a careful history and thorough examination. The condition here was caused by the child swallowing bloody mother's milk.

As the vomiting came immediately after the first morning nursing, when the child was very hungry and struggled at the breast, it probably ruptured some small blood vessels in the breast. There were no fissures or ulcers of the nipples, which if present may cause the child to suck blood into its stomach and then vomit it up.

After the diagnosis had been made the baby was taken away from the breast for twelve hours and put on slightly sweetened weak tea. The breasts were ordered pumped gently so as to avoid caking. The first milk removed still showed traces of blood in it. The baby was returned to the breast, and for three months subsequent to the occurrence while the infant was under the author's observation, there was no recurrence of the hematemesis. The baby gained 14 ounces during the last four weeks under the author's care.

1402 Spruce Street.

SELECTIONS

BLUFFING IN THE TREATMENT OF DRUG ADDICTIONS

A subscriber writes this: "When the Harrison Anti-Narcotic Act went into effect it played into the hands of hundreds of men who had so-called 'cures' which did little or no good, but they got the dollars they were looking for and they left the poor victims in worse shape than before, while assuring them they were 'doing fine' and would be cured. Many of them gave the first few weeks' treatment at a reasonable price but stung them for 'extra time.'

"A patient of mine went to the C—— branch of a certain 'Cure' and they gave him the usual line of 'We will cure you absolutely, remove all desire for your drug, etc.,' and four weeks' treatment was to cost $160 and any extra time at the board rate of $15.50 a week. But they charged him $30.50 per week for extra time and were paid in advance.

"I think the government should provide a place where these unfortunates could be treated at reasonable expense, if able to pay, or free if not able. As it is they are robbed by the skinners and left in worse shape than before. Why don't you publish treatment? Any reputable physician would be glad to give it to his patients."

SOME COMMENT

There lies on our desk, on the top of a pile coming to us,[1] a monthly return from a drug store in a town of 7,500 people. We will analyze this return. It shows that in one month that store dispensed *on the prescriptions of physicians* 2 ounces and 6 drams of morphin, over 6 ounces of gum opium, and 72½ fluid ounces of tr. opium. Apparently, from the size of the prescriptions, every one was for an addict, as there is not a legitimate prescription on the whole list.

There are three other stores in the town. So we look them up and find a better showing, yet these three stores filled prescriptions from physicians and calling for vastly excessive doses of various narcotics; and apparently 78 per cent. of the whole number was for addicts and over 95 per cent. of the total quantity of drugs used. The names of nearly all of the physicians of the town (six out of eight) appear on these addict prescriptions.

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[1] The editor of the *Medical Council* is Dr. Thomas S. Blair, Harrisburg, who on Jan. 19, 1919, was placed in charge of the Bureau of Drug Control of the State Department of Health, authorized by the law of July, 1917.—Editor.

Some of these addicts have incurable disease, some are very aged people, but the most of them are pure addictions. And not one of these addicts has been reported to us as under treatment for the cure of the addiction.

This is admittedly a bad town from the narcotic addiction point of view, much worse than the average; but we could cite dozens more just like it and with the physicians just as careless.

We beg to dispute the assertion of our subscribers that "any reputable physician would be glad to give it (treatment) to his patients." Our duty compels us to write daily to many physicians asking them to treat the addicts which inspection shows they are carrying along, and the great majority refuse to undertake the cases. Not one physician in twenty will touch these cases unless to save his own face when caught catering to the addiction.

We say all of this in sadness, but we are compelled to do so, for it is all in black and white in our office in Harrisburg. And the innocent doctors—fortunately the great majority of all—when asked to treat an addict, feel just like a physician does when asked to clean up the tail end of a criminal abortion that some other man started. Physicians start over 80 per cent. of the drug addicts, and that is nearly as great a crime as is performing an abortion. We need to put these doctors out of our medical societies. They are relatively few in number, but they do a vast amount of harm.

INSTITUTIONAL TREATMENT

Carl Scheffel of Boston is authority for the statement that most of the private institutions treating drug addicts keep the patient as long as his money lasts; that the rapid-withdrawal or the quick-cure institutions graft the patient, the average cost therein being $225, or $20 a day, and that sometimes the cost runs up to $350 and even as high as $175 a week; that the majority of public institutions are hampered by meager appropriations and handicapping legislation, and the good intentions of the physicians in control are negatived by cheap attendants, nurses, and even doctors, who accept bribes to supply drugs illicitly; and that penal institutions are notoriously unfitted for intelligent care of the addict. And he further states that while the family physician is well-meaning, he has neither the facilities, special training, nor time needed to succeed in the treatment of addiction.

ADVERTISED HOME CURES

We have investigated practically all of these. Some are fraudulent, but many are not. On the other hand, none offers anything new, and all are high priced. We are not prepared to condemn them in the main, for some patients are actually cured when physicians mix in good management with the advertised supplies. everything in the line of "cure" has been repeatedly published, so there is nothing to gain by repeating it here. The *Jour. A. M. A.* for Feb. 22, 1919, in an article by a contributor, gave an analysis of all of them, and we beg to refer to it as an admirable outline.

BLUFFING

The main trouble is that the profession is bluffing in the matter of the treatment of drug addictions. We "pass the buck" all along the line; it is "the other fellow" that must take the cases, and the most of us amiably "carry on" by "stringing" the addicts who are too rich to drop from our practices or who are bothersome but poor. And we are *not stopping the making of new addicts,* for nine out of ten of us prescribe narcotics with altogether too free a hand. When the officials call us to account we say "the poor fellow will die if denied his drug." We know perfectly well they *do not* die. Perhaps a few aged persons with organic heart lesions might die if suddenly or completely denied morphin, but the average addict, while he would suffer torment for a few days if denied his drug, would not die. If unwisely shut off some addicts may go insane, but they don't die. We have hunted high and low for credited instances of rationally treated addicts dying when put under treatment, and we can find very few such cases.

Above all, we fail to give adequate treatment to a host of addicts with disease, so that their addiction may be removed by the way of the cure of the underlying disease that keeps up the addiction. And, just as soon as we are "nailed" in our supplying of narcotics to the bothersome addict with no money, we cry out for the state to take him off our hands. The state would have a colossal contract in doing this, for there are millions of addicts—most of them perfectly curable were we to stop bluffing over the matter and get busy, just as the federal government is demanding that we do in the matter of syphilis, gonorrhea and sex vice.

THE REAL CURE

Prevention is the *real* cure. That is distinctly up to us, as physicians, not up to the other fellow or even the government; it is up to us just as is typhoid fever. But the government must make it its care to *make* the doctor who can't grasp this responsibility or see the point of view *stop making dope fiends.*

There are other things—the patent medicine narcotic, the pedler of narcotics, the criminal addict, the red-light narcotic trade, etc.,—that the government must distinctly look after, as well as smuggling of drugs and unnecessary importations, but that does not relieve the practicing physician from his obligation to prevent the use of narcotics wherever possible. So far as our work in Pennsylvania goes, the addicts supplied by physicians and crooked drug stores vastly outnumber all of the other classes combined. There are a *few* crooked doctors, but *a vast number of careless ones* who need to be impressed with the unpalatable fact that they are doing wrong.

IS THERE A SPECIFIC CURE

We don't believe there is. In our view, the problem is one of elimination and support. No "treatment" can be outlined in a book or article that fits one-tenth of the cases as a routine. Certainly none ever has been, and we speak advisedly. Every case must be treated on its merits, but *wholly without bluffing*, subterfuge, side-stepping, maudlin sentimentality, or mysticism. It is purely a clinical matter, just like other diseases in which the patient must expect to feel vast discomfort during the treatment. Yet the idea seems to be that the addict must not suffer any discomfort while under treatment. Nonsense! Where would we land if we followed this theory in our work at large? It is time we became rational in our views regarding the treatment of addictions, for we have blundered while the patients have been plundered.

THE GENERAL HOSPITALS

We believe it to be the *duty* of the *general hospitals everywhere* to admit addicts for treatment, and we believe they would largely succeed in the work. Not so long ago many of the general hospitals refused genito-urinary cases. Now they admit them, for pressure was brought to bear. Perhaps a little pressure would serve in this matter. And there is no reason why a good general hospital cannot do everything for an addict that the specialized institution does. These latter institutions have nothing essentially new to offer, and we speak from abundant observation when we say that most of them have inferior nurses and few modern facilities.

Of course it would be disagreeable to some hospital managements to be compelled to admit these cases; but proper organization would overcome the disagreeable features.

But what is the use if, soon as an addict is out from under hospital restraint, he can go around the corner and find an easy-going doctor who will accommodate him and his fellows with all the dope they want?—Editorial in *Medical Council*, April, 1919.

OFFICIAL TRANSACTIONS

REVISED CONSTITUTION AND BY-LAWS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

AS PREPARED BY THE SPECIAL COMMITTEE ON REVISION OF THE CONSTITUTION AND BY-LAWS IN CONJUNCTION WITH THE STANDING COMMITTEE ON SOCIETY COMITY AND POLICY AND RECOMMENDED BY THE BOARD OF TRUSTEES FOR ACTION BY THE HOUSE OF DELEGATES IN SEPTEMBER, 1919

CONSTITUTION

Article I.—Name

The name and title of this organization shall be The Medical Society of the State of Pennsylvania.

Article II.—Purposes of This Society

The purposes of this Society shall be to federate and bring into one compact organization the entire medical profession of the state of Pennsylvania; to unite with similar societies of other states to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state medicine, so that the profession shall become more useful to the public in the prevention and management of disease and in prolonging and adding to the comfort of life.

Article III.—Component Societies

Section 1.—Component societies shall be those county medical societies whose constitution and by-laws have been approved by this Society.

Article IV.—Membership

Section 1.—The membership of this Society shall consist of citizens of the United States, members in good standing in the component county medical societies, and whose annual assessment in this Society has been paid.

Sec. 2.—Members whose assessment is received by the Secretary of this Society on or before March 31 shall be entitled to all the privileges of this Society for the current calendar year. One whose asssessment is received after March 31 shall be entitled to all the privileges of this Society except that he shall not be entitled to any benefit from the Medical Defense Fund from January 1 up to the date of the receipt by the Secretary of this Society of his name and assessment. The *per capita* assessment for new members elected and reported during November and December shall cover the assessment for the following calendar year.

Sec. 3.—Each member in attendance at the annual session of this Society shall enter his name on a registration blank, indicating the component county medical society of which he is a member. When his right to membership has been verified by reference to the roster of this Society, he shall have a right to all the privileges of membership at that session. No member shall take part in any of the proceedings of the annual session until he has complied with the provisions of this section.

Sec. 4.—Any person who is under sentence of suspension or expulsion from a component county medical society or whose name has been dropped from its roll of members shall not be entitled to any of the rights or benefits of this Society, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 5.—Delegates to this Society from any state society entitled to representation in the American Medical Association shall, by presenting certificates of delegation duly signed, be entitled to seats and to participate in the scientific business of this Society. They shall not be entitled to vote, nor to hold office, nor be eligible to membership.

Sec. 6.—Any physician of reputable standing not a resident of Pennsylvania, but a member of his own state or territorial medical association, after an introduction by a member present, may by vote of this Society be accorded the privilege of participating in the scientific discussions.

Sec. 7.—Any distinguished physician not a resident of this state but a member of his own state or territorial medical association may be elected an honorary member of this Society by the House of Delegates by a three-fourths vote at any annual session. Not more than two may be thus elected in any one year.

Article V.—House of Delegates

Section 1.—The House of Delegates shall be the legislative body of this Society, and shall be composed of: 1. Delegates elected by the component county medical societies: each component county medical society shall be entitled to send to the House of Delegates each year one delegate for every one hundred of its members or fraction thereof. 2. The presidents of the component county medical societies, or, in the absence of the president, the secretary of the component county medical society. 3. A Speaker and a Vice Speaker. 4. The President of this Society, and (5) *ex officio* the Trustees, the Secretary and the Treasurer but without the right to vote.

If any component county medical society is without representation at the close of the roll call of the second meeting of any session of the House of Delegates, then the members registered in attendance from that county may select from their number the number of delegates which such county is regularly entitled to elect; if but one member is registered he shall be seated as the representative of that county. When any delegate is once seated no change may be made during the session. No individual member shall be entitled to more than one vote.

Article VI.—Sections

The House of Delegates may provide for a division of the scientific work of this Society into appropriate sections.

Article VII.—Sessions and Meetings

Section 1.—This Society shall hold an annual session on the fourth Tuesday of September at such place as may be determined upon by the House of Delegates from year to year, and each session shall continue for three days, or longer if required by the business of this Society. When necessary the House of Delegates may, by a three-fourths vote, which may be taken by mail, change the time or place of the next annual session.

Sec. 2.—Special meetings either of this Society or of the House of Delegates shall be called by the President on petition of twenty delegates or one hundred members.

Article VIII.—Officers

Section 1.—The officers of this Society shall be a President; four Vice Presidents; a Secretary and Assistant Secretary; a Treasurer; a Speaker and a Vice Speaker of the House of Delegates; ten Trustees; ten Councilors and as many Censors as there are component county medical societies.

Sec. 2.—The officers, except the Trustees, shall be elected annually by the House of Delegates to serve for one year, or until their successors are elected and installed.

Sec. 3.—No member of the House of Delegates shall be eligible for the office of President.

Sec. 4.—Two Trustees shall be elected annually by the House of Delegates to serve for a period of five years. No Trustee shall be eligible to succeed himself after he has served two full consecutive terms. Each Councilor district shall be entitled to one Trustee.

Article IX.—Funds

Section 1.—Funds shall be raised by an equal annual assessment on each member of the several component county medical societies. The amount of the assessment is to be fixed by the House of Delegates annually. Funds may also be raised by voluntary contributions and in any other manner approved by the House of Delegates. Funds may be appropriated by the House of Delegates to defray the expenses of this Society for publications and for such other purposes as will promote the welfare of the profession.

Sec. 2.—Each year, out of the funds of this Society, the Trustees shall appropriate a sum not to exceed $1 for each member, to be set aside by the Treasurer as a special fund to be known as the Medical Defense Fund. This fund shall be kept separate from other moneys and may be invested by the Treasurer under the direction of the Board of Trustees and shall be used only for the legitimate expenses of members threatened with or prosecuted for alleged malpractice. Provided, however, that no member of this Society shall be entitled to the benefits of this fund who was not a resident of the state of Pennsylvania when the alleged act of malpractice was committed.

Sec. 3.—Each year, out of the funds of this Society, the Trustees shall appropriate a sum not to exceed $1 for each member to be set aside by the Treasurer as a special fund to be known as the Medical Relief Fund. This fund shall be kept separate from other moneys and may be invested by the Treasurer under the direction of the Board of Trustees, and shall be used only for the relief of pecuniary distress, of sick or aged members or the parents, widows, widowers or children of deceased members.

Article X.—Referendum

Section 1.—A general meeting of this Society may, by a two-thirds vote of the members present, order a general referendum on any question pending before or on any action taken by the House of Delegates, and when so ordered the House of Delegates shall submit such question to the members of this Society, who may vote in person or by mail within fourteen days. The vote shall be received by the President of the Board of Trustees and be counted by the President and Secretary of this Society and the result reported to the House of Delegates. If the vote is taken at a general meeting a two-thirds vote of the members present shall be necessary, if the vote be taken by mail the vote must contain a majority of the members of this Society and a majority of such a vote shall determine any question and be binding upon the House of Delegates.

Sec. 2.—The House of Delegates may, by a two-thirds vote, submit any question before it to a general referendum, as provided in the preceding section, and the result shall be binding on the House of Delegates.

Article XI.—Seal

Section 1.—This Society shall have a common seal, with power to break, change or renew the same at pleasure.

Sec. 2.—The seal shall contain the monogram "A. M. A." and "1847," within a circle on a keystone, at the sides of which shall appear, "Organized, 1848; Chartered, 1890," and the whole surrounded by a double circle containing the words, "Medical Society of the State of Pennsylvania."

Article XII.—Amendments

Proposals for amendments or alterations of this Constitution can be offered at any annual session or during the interim; if offered during the interim, such proposals must be sent to the Secretary of this Society at least four months before the next annual session. All proposals for amendments or alterations must appear either in the published minutes of the annual session or must be published in the Journal of this Society at least three months before the next annual session; and all such proposals for amendments or alterations must appear in the official call for the next annual session. If these conditions have been fulfilled then the House of Delegates may adopt or reject such proposals by a two-thirds vote of the Delegates present at the next annual session.

BY-LAWS

Chapter I.—General Meetings

Section 1.—All registered members may attend and participate in the proceedings and discussions of the general meetings and in the scientific work of the sections. The general meetings shall be presided over by the President, or by one of the Vice Presidents, and at these meetings shall be presented the address of the President together with such scientific papers and discussions as may be arranged for in the program.

Sec. 2.—The general meeting or any of the sections may recommend to the House of Delegates the appointment of committees or commissions for scientific investigations of special interest and importance to the profession and the public.

Chapter II.—House of Delegates

Section 1.—The House of Delegates shall meet on the day before that fixed as the first day of the annual session. It may adjurn from time to time as may be necessary to complete its business, provided that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2.—Each delegate, before being seated shall deposit with the committee on credentials a certificate, signed by the President and Secretary under seal of the component county medical society stating that he has been legally and regularly elected a Delegate to this Society.

Sec. 3.—Twenty delegates shall constitute a quorum.

Sec. 4.—The House of Delegates shall give diligent attention to and foster the scientific work and spirit of this Society, and shall constantly study and strive to make each annual session a stepping stone to future ones of higher interest.

Sec. 5.—It shall consider and advise as to the material interests of the profession and of the public in those important matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6.—It shall make careful inquiry into the condition of the profession in each county in the state, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such component county medical societies as already exist, and for organizing the profession in counties where societies do not exist. It shall specially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every legally qualified physician in every county of the state who is reputable has been brought under organized medical society influence.

Sec. 7.—It shall encourage postgraduate and research work, as well as home study, and shall endeavor to have the results utilized and intelligently discussed in the component county medical societies.

Sec. 8.—It shall elect representatives to the House of Delegates of the American Medical Association, in accordance with the Constitution and By-Laws of that body.

Chapter III.—Censorial and Councilor Districts

Section 1.—The state of Pennsylvania shall be divided into nineteen Censorial Districts, and each district shall have a separate Board of Censors. The Board shall be formed by the House of Delegates of this Society electing one Censor from each component county medical society in the district. Each component county medical society is requested to present to the House of Delegates, for its consideration, the name of a suitable member for District Censor. Each district shall hold a district meeting at least once every two years, for the purpose of increasing acquaintance, goodfellowship and organization among the physicians of this district. Only members of a component county medical society in that district shall be eligible to membership or office at such meeting, but all physicians residing in the district who are eligible to membership in a component county medical society shall be invited to the meetings. The districts shall be constituted as follows:

First: Philadelphia.
Second: Chester, Delaware.
Third: Bucks, Lehigh, Monroe and Northampton.
Fourth: Berks, Montgomery and Schuylkill.
Fifth: Dauphin, Lancaster and Lebanon.
Sixth: Adams, Cumberland, Franklin, Fulton and York.
Seventh: Huntingdon, Juniata, Mifflin and Perry.
Eighth: Bedford, Fayette, Somerset and Westmoreland.
Ninth: Allegheny, Greene and Washington.
Tenth: Beaver, Lawrence and Mercer.
Eleventh: Crawford, Erie and Warren.
Twelfth: Cameron, Elk, McKean and Potter.
Thirteenth: Butler, Clarion, Forest and Venango.
Fourteenth: Armstrong, Indiana and Jefferson.
Fifteenth: Clinton, Lycoming, Tioga and Union.
Sixteenth: Blair, Cambria, Center and Clearfield.
Seventeenth: Bradford, Sullivan, Susquehanna and Wyoming.
Eighteenth: Columbia, Montour, Northumberland and Snyder.
Nineteenth: Carbon, Lackawanna, Luzerne, Pike and Wayne.

Sec. 2.—The Censors of each district shall inquire into the merits of every case of appeal from the decision of a component county medical society by a member who has been censured, suspended, or expelled, provided that the appeal be made within three months after the censure, suspension or expulsion. They shall report in writing their decision thereon to the county medical society, and also to the Councilors of this Society, before the next following annual session. They shall consider and dispose of, in like manner, all questions affecting the Principles of Medical Ethics that may be referred to them either by a component county medical society or by this Society. The decision of Censors in every case must be signed by a majority of the Board. In case a district contains an even number of Censors, and a tie vote results, the Councilor for that district shall cast the deciding vote.

Sec. 3.—The state shall be divided into ten Councilor Districts and each district shall be entitled to one Councilor. The Councilor Districts shall be constituted as follows:

First: First Censorial District.
Second: Third and Nineteenth Censorial Districts.
Third: Second and Fourth Censorial Districts.
Fourth: Fifth and Sixth Censorial Districts.
Fifth: Seventh and Sixteenth Censorial Districts.
Sixth: Eighth and Ninth Censorial Districts.
Seventh: Tenth and Eleventh Censorial Districts.
Eighth: Twelfth and Seventeenth Censorial Districts.

Ninth: Thirteenth and Fourteenth Censorial Districts.

Tenth: Fifteenth and Eighteenth Censorial Districts.

Chapter IV.—Election of Officers

Section 1.—All elections shall be by ballot of the House of Delegates and a majority of votes cast shall be necessary to elect.

Sec. 2.—The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the second day of the general session. This order of business may be postponed to a definite time and place by a two-thirds vote of those present. In the election of officers of this Society, the Secretary shall call the roll of members of the House of Delegates, and each member, as his name is called, shall come forward to the Speaker's desk and deposit his ballot. When counting the ballots the Speaker shall call two members forward to assist and the Secretary shall call a member to keep a duplicate tally.

Sec. 3.—Any person known to have solicited votes for, or sought after, any office within the gift of this Society shall be ineligible for any office for two years.

Sec. 4.—The Chairman and Secretaries of all sections provided for by action of the House of Delegates shall be elected by the several sections at executive meetings held on the second day of the annual session.

Sec. 5.—*Installation of Officers.*—The officers of this Society except the President shall assume their duties at the close of the last meeting of the annual session at which they are elected.

Sec. 6.—*Installation of the President.*—The President shall be installed at the first general meeting of the annual session following that at which he was elected.

Chapter V.—Officers of the House of Delegates

The House of Delegates shall elect annually a Speaker and a Vice Speaker, these officers to serve for one year or until their successors are elected and installed. These officers may or may not be regular members of the House of Delegates.

Chapter VI.—Duties of Officers

Section 1.—The President shall preside at the general meetings. At the first general meeting of the annual session following his election he shall deliver an address on such matters as he may deem of importance to this society. He may at any time make suggestions in writing to the House of Delegates or to any special or standing committee. He shall be *ex officio* a member of the Board of Trustees. He shall be *ex officio* a member of all standing or special committees.

Sec. 2.—The Vice Presidents shall assist the President in the performance of his duties; during his absence or at his request one of them shall officiate in his place. In case of the death, resignation or removal of the President the vacancy shall be filled by the ranking Vice President.

Sec. 3.—The speaker of the House of Delegates shall preside at the meetings of the House of Delegates and shall perform such duties as custom and parliamentary usage require. He may at any time make suggestions in writing to the House of Delegates.

Sec. 4.—The Vice Speaker of the House of Delegates shall officiate in the place of the Speaker during his absence or at his request. In case of death, resignation or removal of the Speaker the vacancy shall be filled by the Vice Speaker.

Sec. 5.—The Secretary shall attend the general meetings of this Society and the meetings of the House of Delegates, and shall keep the minutes of their respective proceedings in separate record books. He shall be custodian of all record books and papers belonging to this Society, except such as properly belong to the Treasurer. He shall receive and receipt for the *per capita* assessment from the component county medical societies and forward at least every two weeks to the Treasurer of this Society all funds of this Society that have come into his hands. He shall provide for the registration of the members and the delegates at the annual session. He shall aid the Councilors in the organization and improvement of component county medical societies, and in the extension of the power and usefulness of this Society. He shall conduct the official correspondence notifying members of meetings, officers of their election, and committees of their appointment and their duties. He shall employ such assistance as may be ordered by the Trustees, and shall make an annual report to the House of Delegates. He shall supply each component county medical society with the necessary receipts and blanks for making its reports. Acting with the Committee on Scientific work, he shall prepare and issue all programs. He shall give bond of a surety company in the sum of $5,000 for the faithful performance of his duties.

Sec. 6.—The Assistant Secretary shall act as an aid to the Secretary, especially during annual sessions, and may take his place when necessary as a temporary Secretary.

Sec. 7.—The Treasurer shall hold all funds of this Society together with bequests and donations and deposit the same in such banks or trust companies as may be designated as depositories by the Board of Trustees. He shall pay money out of the treasury only on written orders signed by the President and countersigned by the Secretary. He shall render annually to this Society a full account of the state of funds. He shall give bond of a surety company in the sum of $15,000 for the faithful performance of his duties.

Sec. 8.—At the first meeting of the Board of Trustees after the annual session of this Society, it shall organize by electing a chairman and a secretary, the chairman shall appoint such committees as may be necessary or desirable. The Board of Trustees shall have charge of all properties and the financial affairs of this Society. It shall recommend to the House of Delegates the amount of the annual assessment. It shall be the duty of the Board to provide for and superintend the publication of the Pennsylvania Medical Journal and of all proceedings, transactions and memoirs of this Society. It shall have full discretionary power to omit from the Pennsylvania Medical Journal, in part or in whole, any paper that may be referred to it for publication. It shall appoint a general manager and an editor of the Journal, which two positions may be held by one person, and such assistants as may be necessary, and shall determine their salaries and the term and conditions of their employment. All resolutions or recommendations of the House of Delegates pertaining to the expenditures of money must be approved by the Board of Trustees before the same shall become effective. During the annual session of this Society the Board shall hold meetings as often as may be deemed necessary and all matters referred to it by the House of Delegates shall be reported on within twenty-four hours, if so requested by the House of Delegates. The Board of Trustees shall have the accounts of the Secretary, Treasurer and the officers of the Journal audited annually or oftener if deemed desirable and shall make an annual report on the same to the House of Delegates. This report shall specify the character and cost of all publications of this Society during the year and the amount of all property belonging to this Society.

In case of vacancy in the office of Secretary or Treasurer on account of death or otherwise, the vacancy shall be filled by the Board of Trustees until the next annual session of the House of Delegates.

The Board of Trustees shall fix the salary of the Secretary and the Treasurer. Regular meetings of the Board shall be held immediately after the annual session of this Society and on the first Wednesday in the month of February of each year. Special meetings of the Board may be called at any time by the Chairman or by six members of the Board. Six members of the Board shall constitute a quorum. During the intervals between the sessions of the House of Delegates, the Board of Trustees shall supervise the action of Committees constituted by the action of the House of Delegates.

Sec. 9.—The Board of Trustees shall have full control of all arrangements for the annual session. It may appoint a Manager of Sessions and Exhibits who shall carry out all the business details incident to the annual sessions of this Society. He shall provide suitable accommodations for the meeting places of this Society and the House of Delegates and the respective committees. He shall enlist the cooperation of the local Committees on Arrangements and approve all its actions before this Society shall be responsible for expenditures recommended by it. He shall report an outline of the arrangements to the Secretary for publication in the program and in the State Journal, and make such additional announcements during the session as occasion may require. He shall render to the Board of Trustees a full and itemized account of all receipts and expenditures on account of the annual session and pav over to the Treasurer any balance left in his hands. He shall receive a salary to be fixed annually by the Board of Trustees. He shall give a bond of a surety company in the sum of $1,000 for the faithful performance of his duties.

Sec. 10.—*Board of Councilors.*—Each Councilor shall be organizer and peacemaker for a district consisting of certain counties. He shall visit the counties in his district at least once a year, for the purpose of organizing component county medical societies where none exist; for inquiring into the condition of the profession, and for improving and increasing the zeal of component county medical societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his district at the annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor, in the line of the duties herein imposed, may be allowed on a properly itemized statement; but this shall not be construed to include his expenses in attending the annual session of this Society.

Sec. 11.—The Board of Councilors shall meet on the day preceding the annual session, and daily during the session, and at such other times as necessity may require, subject to the call of the chairman or on petition of three Councilors. It shall meet on the last day of the annual session of the Society to organize and outline work for the ensuing year. It shall elect a chairman, and a clerk. It shall, through its chairman, make an annual report to the House of Delegates.

Sec. 12.—The Board of Councilors shall be the Judicial Council of this Society. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component county medical societies or to this Society. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall decide all questions of discipline affecting the conduct of members or component county medical societies, on which an appeal is taken from the decision of a Board of Censors, and its decision in all such matters shall be final.

Sec. 13.—In sparsely settled sections it shall have authority to organize the physicians of two or more counties into a society. Such societies, when organized and after their Constitution and By-Laws have been approved by this Society, shall be entitled to all rights and privileges provided for component county medical societies.

Sec. 14.—The Board of Councilors shall select a member of the bar of Pennsylvania as Legal Counsel of this Society, and is empowered to pay such counsel an annual retaining fee. To the Legal Counsel shall be submitted all suits for alleged malpractice brought against members of this Society and he shall be asked to endorse local counsel suggested or engaged by the Councilor to defend such suits. To him also shall all proposed appeals to higher courts be submitted. The proper fees for defending members of this Society in suits for alleged malpractice shall be paid out of the Medical Defense Fund, provided that the member has placed his case in the hands of this Society in accordance with the regulations adopted by the Council and approved by this Society, as follows:

1. A member sued or threatened with suit for alleged malpractice should at once fill out the application blank which can be secured either from the secretary of his county medical society, from the Secretary of the State Medical Society or from the Councilor for the district. The Society will not undertake the defense of any member unless his application is made within thirty days after service of summons.

2. The application must be endorsed by unanimous vote of all the Censors of his county medical society present at a special meeting called for this purpose, after a rigid examination of all of the facts in the case, not only as regards the applicant's membership and standing in his society but also as regards the worthiness of the applicant's case. It should be understood that the endorsement of the censors of a county medical society carries with it not only moral support, but their active participation in the conduct of the trial in any way they may best assist, and all without thought of pecuniary return.

3. As soon as the application has received the endorsement of the censors of the county medical society, it should be sent to the Councilor of the district for his endorsement. The Society will not be responsible for attorney fees incurred in the defense of any member, the defense of whom has not been approved by the Councilor for the District.

4. After the application has received the endorsement of the county medical society censors and the Councilor for the district, the management of the member's defense will rest with a committee consisting of the Councilor for the district, the President and the Secretary of the State Society.

5. The Councilor for the district or the Secretary of the State Society or both shall then arrange and conduct a conference with the legal representatives and other parties concerned, having in view the thorough discussion of all circumstances pertaining to the threatened suit and the possibility of its withdrawal. The Councilor or Secretary or both upon approval by the Trustees shall be paid for their time expended in this particular service and have refunded their legitimate expenses.

6. The applicant should sign a contract vesting in the Committee of Council sole authority to conduct the defense of his suit, and he should agree to make no compromise or settlement of the case without the consent of the Councilor of his district given in writing.

7. The State Society will not undertake the defense of any member who after investigation by the censors and Councilor for the district is believed guilty of criminal abortion, feticide, homicide or any criminal act or who has not conformed to the recognized ethical laws in regard to these cases. It will only defend suit brought in the course of legitimate professional work.

8. The State Society will not pay any expenses for serving subpoenas nor the expense of witnesses residing within the county, nor will it pay judgment for fine awarded or imposed by the jury or court.

Chapter VII.—Committees

Section 1.—The standing committees of this Society shall be as follows, the appointments to be made annually by the President:

A Committee on Scientific Work.
A Committee on Public Health Legislation.
A Committee on Society Comity and Policy.
A Committee on Health and Public Instruction.
A Committee on Benevolence.
A Committee on Arrangements.
A Press Committee.

Sec. 2.—The Committee on Scientific Work shall consist of the President, Secretary and the Manager of Sessions and Exhibits of this Society, the chairman of the Committee on Arrangements and the chairmen and secretaries of the sections and a chairman on Scientific Business appointed annually by the President. It shall determine the character and scope of the scientific proceedings of this Society for each session, subject to the instructions of the House of Delegates. At least thirty days previous to each annual session it shall prepare a program to be issued by the Secretary, announcing the order in which papers and discussions shall be presented.

Sec. 3.—The Committee on Public Health Legislation shall consist of five members and the President and the Secretary. This committee shall represent the Society in securing and enforcing legislation in the interest of public health and scientific medicine. It shall act under the directions of the House of Delegates, and in the interim between the meetings of the House of Delegates it is authorized to undertake such activities as in its judgment will further the purposes it represents.

Sec. 4.—The Committee on Society Comity and Policy shall consist of five members. This committee shall keep informed concerning matters between this Society and the American Medical Association, between this Society and the component county medical societies, and between the component county medical societies and their members, and shall recommend to the House of Delegates such action as will best uphold the dignity and honor of the medical profession, exalt its standards, extend its sphere of usefulness and promote the advancement of medical science.

Sec. 5.—The Committee on Health and Public Instruction shall consist of five members. It shall be the duty of this committee, subject to the House of Delegates, to attempt to bring together the lay people and the profession, to increase confidence in scientifically trained physicians, and to unite the public and the medical profession in a campaign for better health conditions.

Sec. 6.—The Committee on Benevolence shall consist of the Secretary, the Treasurer, and three members to be selected annually by the Trustees, at least one of whom shall be a Trustee. This committee shall select its own chairman, secretary and treasurer, and shall have absolute and confidential jurisdiction over the distribution of such part of the Medical Benevolence Fund as may be placed in its hands. No money shall be paid from its treasury except on warrant signed by the chairman and secretary of the committee, and an annual audit of its accounts shall be made by a committee of the Trustees, the names of the beneficiaries being omitted. All beneficiaries shall be designated by number, and after each annual audit all communications tending to show the personality of the same shall be destroyed. This committee may solicit subscriptions, donations and legacies to be added to the principal of the Medical Benevolence Fund. It may also receive subscriptions to be used for the relief of members in distress from the effects of any special catastrophe.

Sec. 7.—The Committee on Arrangements shall be appointed by the President on the recommendation of the component county medical society of the county in which the annual session is to be held. The committee shall effect an organization and cooperate with and work under the advice and supervision of the Manager of Sessions and Exhibits in making arrangements for the annual sessions.

Sec. 8.—The Press Committee shall consist of the Secretary, the Manager of Sessions and Exhibits and the chairman of the Local Committee on Arrangements. This committee shall have power to add to its number as needed and shall designate the duties of each member so appointed. This committee shall have general censorship over all matters for the public press in connection with the transaction of the general meetings, the scientific sections and the House of Delegates.

Chapter VIII.—Committees of House of Delegates

Section 1.—The regular committees of the House of Delegates shall be as follows, the appointments to be made annually by the Speaker of the House of Delegates early in September from the members already reported as members of the House of Delegates for the coming session of this Society:

A Committee on Credentials.
A Reference Committee on Reports of Officers and Standing Committees.
A Reference Committee on Scientific Business.
A Reference Committee on New Business.

Sec. 2.—The Committee on Credentials, of the House of Delegates shall consist of three members of the House of Delegates for the coming session of this Society, to which shall be referred all questions regarding the registration and the credentials of the delegates.

Sec. 3.—The Reference Committee on Reports of Officers and Standing Committees shall consist of three members of the House and to it shall be submitted all reports of officers and committees not otherwise specifically referred to other committees, for its consideration and recommendation before action may be taken by the House.

Sec. 4.—The Reference Committee on Scientific Business shall consist of three members of the House and to it shall be referred all new business of a scientific nature, not otherwise specifically referred to other committees, for its consideration and recommendation before action may be taken by the House.

Sec. 5.—The Reference Committee on New Business shall consist of three members of the House and to it shall be referred resolutions introducing ordinary new busniess, not specifically referred to other committees, before action may be taken by the House. This committee is specially charged with all resolutions conveying the thanks of the Society.

Sec. 6.—The House of Delegates on recommendation of the Committee on Scientific Work may authorize special commissions to undertake scientific investigations during the interim between the meetings of the House of Delegates. Such commissions shall be automatically discharged unless specifically continued by the House of Delegates.

Chapter IX.—County Societies

Section 1.—All county societies now in affiliation with this Society are component county medical societies. Those which may hereafter be organized in this state, which shall have adopted principles of organization, not in conflict with this Constitution or these By-Laws, shall on approval of the Censors of the district become component parts of this Society. Only one component medical society from any one county shall be affiliated with this Society.

Sec. 2.—As rapidly as can be done after the adoption of this Constitution and these By-Laws, a medical society shall be organized in every county in this state, in which no component society exists.

Sec. 3.—Each component county medical society shall judge of the qualifications of its own members; but, as such societies are the only portals to this Society and to the American Medical Association, due diligence should be observed so that only reputable and legally registered physicians, who are citizens of the United States are admitted to membership.

Sec. 4.—Any physician who may feel aggrieved by the action of a component county medical society in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Censors of the district for their decision.

Sec. 5.—In hearing appeals the Censors may admit oral or written evidence, as in their judgment will best and most fairly present the facts; but in every appeal, efforts at conciliation and compromise shall, on the part of the individual Censors and of the Board, precede all such hearings.

Sec. 6.—When a member in good standing in any component county medical society moves to another county in this state, he shall, on request, be recommended by his society to the component county medical society into whose jurisdiction he moves, for election without the delay attendant upon ordinary applications for membership.

Sec. 7.—A physician living near a county line may hold his membership in the county most convenient for him to attend, on permission of the Councilor of his district.

Sec. 8.—Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county. Systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it includes every qualified physician in the county.

Sec. 9.—At some meeting at least six weeks in advance of the annual session of this Society, each component county medical society shall elect a delegate and two alternates to represent it in the House of Delegates of this Society, in the proportion of one delegate and two alternates to each one hundred of its members and for each fraction thereof. The secretary of the component county medical society shall send a list of such delegates to the Secretary of this Society immediately after their election.

Sec. 10.—The secretary of each component county medical society shall keep a roster of its members and of the nonaffiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of registration or license to practice in the state, and such other information as may be deemed necessary. In keeping such a roster the secretary shall note any change in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall endeavor to account for every physician who has lived in the county during the year.

Sec. 11.—The secretary of each component county medical society shall during or before January of each year furnish the Secretary of this Society with a list of the officers and members of his county medical society, and shall report new members as soon as they are qualified as members of his society. He shall send the amount of the members' *per capita* assessment at the same time their names are reported and also duplicates of the receipts given to the members of his society. He shall promptly notify the Secretary of this Society of any change in the addresses of the members of his society, and of losses in membership, giving the cause, such as death (with date), resignation, removal (with present address) or explusion.

Sec. 12.—Each component county medical society shall notify the Secretary of this Society of any new By-Laws or rules that have been adopted, and furnish for publication in the Journal of the State Society brief notices of its deceased members. Each component county medical society shall designate one of its members to act as reporter for the Journal, who shall funrish such reports of the meetings of his society and such professional news as may be thought desirable for publication.

Chapter X.—Miscellaneous

Section 1.—No address or paper before this Society except those of the President and invited guests shall occupy more than fifteen minutes in its delivery. In the discussions of any papers no member shall speak longer than five minutes, except by unanimous consent.

Sec. 2.—All papers read before this Society or any of the sections shall become the property of this Society. Each paper shall be deposited with the Secretary when read.

Sec. 3.—The deliberations of this Society shall be governed by parliamentary usage, as contained in Robert's Rules of Order, when not in conflict with this Constitution or these By-Laws.

Sec. 4.—The Principles of Medical Ethics of the American Medical Association shall govern the conduct of members of their relation to each other and to the public.

Sec. 5.—At each annual session a public reception shall be provided as part of the program, in honor of the President of the Society. This function shall be under the direction of the Secretary and the Manager of Sessions and Exhibits and shall be paid for by this Society.

Chapter XI.—Amendments

These By-Laws may be amended at any annual session by unanimous consent, after lying over one day. If there be a dissenting voice, the amendment shall lie over for one year and take the course of amendments to the Constitution.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

WALTER F. DONALDSON, M.D., SECRETARY, 8103 Jenkins Arcade Building, Pittsburgh, Pa.

MILLIONS FOR PREVENTION

Closer cooperation between practitioners of medicine and the representatives of state medicine is the answer in Pennsylvania to state socialism and coercive health insurance.

We (medical men) realize that preventive medicine or state medicine is in its infancy; we realize that otherwise reasonably intelligent people are ignorant of the existence of or the baneful influence on health of many of their individual and collective habits.

Medical organizations must arouse public opinion to the value of health boards. These should be freed from political influences, made more attractive to high class, specially trained men, and the scope of their work broadened to include every agency that makes for right physical living. Give them full power for action on the housing problem as applied to dwellings, as well as to places of employment; full power over the domestic regime of those ignorant or indifferent among our population; make it impossible for seven to ten individuals to sleep and eat in one small, unventilated room, beds filled every hour in the twenty-four by physically exhausted individuals who stop not to remove their working clothes. Every physician practicing in so-called industrial communities is familiar with these abuses and well aware that avariciousness on the part of tenants is very often the responsible motive.

Social nursing and the prevention of industrial diseases have but begun to show results, and must have the continued force of public opinion led by organized medicine behind them.

Nation-wide prohibition will in a few years greatly diminish sickness and increase thrift. After ten months of partial prohibition in Detroit, Michigan, the mayor of that city testifies that "visiting nurses of the Board of Health report home conditions enormously improved and child welfare has received an impetus which *millions of dollars* in appropriations could not have effected."

It must be admitted that every movement toward the physical and moral betterment of the individual in his home, at his school and at his work is a step away from the necessity for compulsory health insurance. Such steps in the past may have been few and faltering, but in the near future, following the recent awakening of public conscience, these advances toward prevention will come by leaps and bounds, and should be led always by organized medicine.

What has European paternalism to offer us in exchange for this typical American plan? Ask the returning medical officers of the American Expeditionary Forces how many evidences of disease prevention they observed among civilian continentals. Let us make our Americanism a matter of the present and the future, developing liberty and self-reliance, democracy and the square deal. *Let the state spend millions for the prevention of disease, but not a dollar toward the advancement of state socialism.*

ALLEGED MALPRACTICE

For the benefit of the member deeming himself immune from the menace of suit for alleged malpractice we give a very brief résumé of the most recent applications for medical defense.

Case 123—Sued because of failure to use tetanus antitoxin in a child treated on account of slight scalp laceration. Child died later from tetanus.

Case 124—Sued because diphtheria antitoxin was used. Attending physician urged immunizing injection for entire family; mother of sick boy alleges her health permanently impaired by said injection.

Case 125—Sued because of infection and recurrence of hernia subsequent to operation.

Case 126—Physician made tentative diagnosis of early pregnancy. Subsequently a pelvic tumor was removed. Compromise was offered on basis of family physician bearing expenses incident to operation and to the expected infant's layette. Promptly and properly this threatened physician absent in our country's service appealed to the defense fund, and very promptly and properly the councilor for that district visited the plaintiff with the result that the threat was withdrawn.

Cases 123, 124 and 125 very vividly indicate the simple sources of possible trouble to practitioners of medicine in any or all of its branches. Case 126 graphically portrays the grotesque grounds upon which suit may threaten, while the gratifying result of the councilor's effort is illustrative of many threats that die a-borning, and never come to the attention of our membership.

The magnificent results attained throughout the entire history of the defense fund demonstrate forcibly but one of the many advantages of acquiring and retaining membership in our society. Perpetuation and extension of benefits under the defense fund also afford splendid argument for increasing the *per capita* tax to the Medical Society of the State of Pennsylvania.

REPUDIATING MEMBERSHIP

Despite the energetic effort of the officers and members of all component societies several hundred members of the state society are at present (May 23) in grave danger of being classified under the above heading. The real cause for this unfortunate condition in most instances lies in the carelessness of the individual member, who should realize that his failure to pay his county society dues for the current year deprives him of several benefits of membership, including eligibility for fellowship in the American Medical Association and the protection of the defense fund. In addition he is guilty of failure to pay his share of the state society dues of the military members of his county society, which have been proudly paid by the live members of each society.

Unless he revives his membership at once he stands suspected of not only refusing to bear his share, but of actually accepting at the hands of organized medicine the many benefits derived from our legislative activities.

Eight of every ten of the reputable and legally licensed physicians of Pennsylvania are today enrolled in the live membership of organized medicine. If you are not of this grand majority, is it because you are not acceptable to the majority, or is it because you have been indifferent? Surely your lapse is but temporary. Overcome it at once by paying promptly your 1919 county society dues and atone for it at once by winning new members and increasing the majority to nine of every ten reputable and legally licensed physicians in the state. Several county societies today enroll ten of every ten eligibles.

SCIENTIFIC PROGRAM

The May meeting of the Committee on Scientific Work and the section officers was fully attended and imbued with a healthy spirit of keen rivalry between representative members. We firmly believe that the symposia, papers and discussions scheduled for the Harrisburg session, September 22-25, 1919, will prove the best balanced and the most timely presentation of scientific subjects our society has ever enjoyed. Preventive and economic divisions will be well represented. Lanterns and cinema machines will be in every section. The headquarters hotel, The Penn-Harris, is delightfully situated, facing Capitol Park, and is perfectly appointed.

REVISION OF CONSTITUTION AND BY-LAWS

Elsewhere in this issue appear the recommendations of the Board of Trustees to the House of Delegates regarding the proposed changes in our governing rules. Each member should study these propositions and voice his opinion by instruction to the Delegates from his component society.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to May 23:

Adams County: *New Member*—Chester G. Crist, Gettysburg, by transfer from Franklin County Society.

Allegheny County: *Transfer*—Henri Schmid from Coraopolis to Mahoning County Medical Society, Youngstown, Ohio. *Death*—Robert H. Gilliford (Med. Coll. of State of S. C., '74) in Pittsburgh, March 28, aged 69.

Beaver County: *New Member*—Edward C. Straessley, Beaver Falls, by transfer from Elk County Society.

Bucks County: *New Members*—Arthur L. MacKenzie, 316 Radcliffe St., Bristol; Joseph M. Ellenberger, Harriman.

Cambria County: *New Members*—Milton C. Dunnick, Albert C. Stephens, Nanty-Glo; Michael A. Barbouhr, 130½ Market St.. William J. Reddy, 115½ Broad St., Arthur M. Benshoff, Fulton Bldg., Park Place, Johnstown; George Martin, 445 First St., Conemaugh. *Death*—George W. Wagoner (Western Reserve Univ., Cleveland, '78) in Johnstown, April 26, aged 63, from pulmonary embolism.

Chester County: *New Member*—Marshall K. Steele, Chester County Hospital, Chester.

Dauphin County: *New Members*—William S. Buehler, Elizabethville; George K. Strode, Dept. of Health; Thomas W. Jackson, 115 Pine St.; Harry A. Lakin, 10 S. Twentieth St., Harrisburg. *Death*—William H. Seibert (Univ. of Penna., '74) in Steelton, April 28, aged 59, from pneumonia.

Delaware County: *New Member*—Harmon West, 60 Winona Ave., Norwood.

Fayette County: *New Member*—W. T. Myers, Uniontown.

Franklin County: *New Member*—H. C. Bridges, Blue Ridge Summit.

LACKAWANNA COUNTY: *New Members*—Francis P. Moylan, 216 S. Main Ave.; H. S. Newhart, 1425 Mulberry St., Scranton; William E. Lloyd, Forest City (Susquehanna Co.). *Death*—Herman Bessey (Univ. of Penna., '95) in Scranton, May 9, aged 58.

LUZERNE COUNTY: *New Members*—Leland C. Rummage, Sweet Valley; Anthony J. Caffrey, 311 S. Washington St., Wilkes-Barre; Charles E. Nicholson, Pittston; Elijah M. Ellsworth, 80 N. Dorrance St., Dorranceton; Robert A. Gaughan, 180 N. Laurel St., Hazleton.

LYCOMING COUNTY: *New Member*—Robert Douglas Spencer, 415 Lincoln Ave., Williamsport.

MCKEAN COUNTY: *New Member*—Grace A. White, Bradford.

MERCER COUNTY: *New Member*—Willard B. Campbell, Grove City, by transfer from Butler County Society.

NORTHAMPTON COUNTY: *New Members*—LeRoy W. Hoon, Bethlehem; James A. Betts, 100 N. Seventh St., Easton.

NORTHUMBERLAND COUNTY: *Death*—Joseph C. Poffenberger (Jeff. Med. Coll., '12) in Sunbury, April 6, aged 31, from pneumonia complicating influenza.

PHILADELPHIA COUNTY: *Death*—William H. Bennett (Univ. of Penna., '69) in Atlantic City, May 15, aged 76, from paralysis.

SCHUYLKILL COUNTY: *New Member*—Harvey A. Price, Port Carbon.

VENANGO COUNTY: *New Member*—H. H. Lamb, Oil City. *Removal*—C. Cooper from Cooperstown to Titusville (Crawford Co.).

WASHINGTON COUNTY: *New Members*—Albert J. B. Pierce, Courtney; George H. Murphy, Monongahela; Ralph E. Cummings, Bentleyville.

WAYNE COUNTY: *New Member*—Edwin S. Miller, Pleasant Mount.

WYOMING COUNTY: *Death*—Bert E. Bidleman (Univ. of Buffalo, '83) in Tunkhannock, May 12, aged 63, from a cancerous growth of the neck.

PAYMENT OF PER CAPITA ASSESSMENT

The *per capita* assessment for the year 1919 has been received from component county societies since April 1, 1919, as follows. The figures in the first column indicate the county society numbers. Second column indicates state society numbers.

5/ 1	Luzerne	190	6168	$2.75
	Beaver	54	6169	2.75
	Chester	55–59	6170–6174	13.75
	Allegheny	958–975	6175–6192	49.50
	Somerset	28–30	6193–6195	8.25
	Carbon	30–31	6196–6197	5.50
	Clarion	35–37	6198–6200	8.25
	Lackawanna	156–157	6201–6202	5.50
	Fayette	118–120	6203–6205	8.25
	Somerset	31–33	6206–6208	8.25
	Dauphin	119–120	6209–6210	5.50
	Somerset	34–35	6211–6212	5.50
	Jefferson	45–49	6213–6217	13.75
	Luzerne	192–193	6218–6219	5.50
	Lancaster	125	6220	2.75
	Allegheny	977, 979–987	6221–6230	27.50
	Somerset	36–37	6231–6232	5.50
	York	108–113	6233–6238	16.50
	Potter	13–16 D. R.	6239–6242	.....
	Somerset	38–39	6243–6244	5.50
	Dauphin	121–122	6245–6246	5.50
	Somerset	40	6247	2.75
	Lawrence	48	6248	2.75
	Lycoming	96	6249	2.75
	Cambria	100–108	6250–6258	24.75
	Schuylkill	87–89	6259–6261	8.25
	Northampton	123–128	6262–6265	11.00
	Dauphin	123–126	6266–6269	11.00
	Luzerne	194–195	6270–6271	5.50
	Somerset	41	6272	2.75
	Lycoming	97–98	6273–6274	5.50
	Butler	53	6275	2.75
	Lackawanna	158–164	6276–6282	19.25
	Juniata	10	6283	2.75
	McKean	43	6284	2.75
	Tioga	25	6285	2.75
	Washington	107–110	6286–6289	11.00
	Mercer	65	6290	2.75
	Lackawanna	165–170	6291–6296	16.50
	Schuylkill	90–91	6297–6298	5.50
	Lycoming	99–100	6299–6300	5.50
	Berks	118	6301	2.75
	Wayne	30	6302	2.75
	Juniata	11	6303	2.75
	Bedford	14–15	6304–6305	5.50
	Delaware	89	6306	2.75
	Cambria	109–115	6307–6313	19.25
	Mercer	66	6314	2.75
	Lycoming	101–102	6315–6316	5.50
	Bucks	90–91	6317–6318	5.50
	Venango	56–57	6319–6320	5.50
	Franklin	57	6321	2.75
	Wayne (Payment of dues for 1918 previously remitted)			5.50

TUBERCULOSIS CONTROL IN AN ARMY CANTONMENT

Major Wheaton describes the operation of a tuberculosis clearing station at Camp Grant, Illinois. This clearing station, established near the base hospital, largely solves the problem of careful reexamination in this camp. Upon arriving at camp the men were first examined by the general examining board and all manifest cases were promptly rejected. All suspected cases were then referred to the recall board which weeded out the active cases. Notwithstanding every precaution a certain number of healed, quiescent lesions reactivate. These men are sent to the clearing station by the regimental surgeon, and if found manifestly tuberculous are sent to the tuberculosis ward of the base hospital for transfer to a government sanatorium. Many hundreds of soldiers were sent back to duty from the clearing station who would otherwise have entered the base hospital not manifestly ill with a diagnosis of tuberculosis, needlessly occupying bed space and taking up the time of surgeons that should be devoted to those manifestly ill and needing care. From July to October, inclusive, 753 men were examined at the clearing station while 209 roentgen-ray examinations and 1,207 sputum examinations were made. Of the cases that were referred merely on suspicion of tuberculosis, 28 were diagnosed chronic active pulmonary tuberculosis at first examination.—Wheaton, Clarence L.: Tuberculosis Control in an Army Cantonment, *American Review of Tuberculosis*, March, 1919, Vol. III, No. 1.

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly **Official Organ of the Medical Society of the State of Pennsylvania**

Cyrus Lee Stevens, A.M., M.D., Editor

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Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

June, 1919

REVISION OF THE CONSTITUTION AND BY-LAWS

The Committee on the Revision of the Constitution and By-Laws of the Medical Society of the State of Pennsylvania, appointed two years ago and continued at the last session of this society, has made its report in the form of a complete revision, addition, and amendment of the laws governing this organization. This appears on preceding pages of this issue of the Journal. The purpose of this article is to call the attention of officers and members of the component county medical societies in this state to this report and to state that the officers of the state society in session with this committee have carefully read and discussed the merits of the various changes which occur therein. It is their desire that every member carefully read this revision and discuss the same in a meeting of the component county society. If there appear changes which do not meet the approval of the county society, any recommendations in the form of an amendment or correction should be carefully prepared by the representatives to the House of Delegates in typewritten form, three copies of which should be made, so that when this matter is brought up for final passage snap judgment may not enter into the final disposition of so important a matter as the rules and regulations governing so large a number as are found in the Medical Society of the State of Pennsylvania. It might be pointed out that business and economic conditions have apparently proved it necessary that certain changes proposed in these by-laws be accepted and the arrangements, therein provided, carried out for the future safety and welfare of the medical profession of this great commonwealth.

F. L. V. S.

THE PROPOSED INCREASE IN THE PER CAPITA ASSESSMENT

At the recent meeting of the board of trustees of the Medical Society of the State of Pennsylvania held at the Penn-Harris Hotel, Harrisburg, the *per capita* assessment, one of the many matters that came before this body for consideration, was the subject for a lively and somewhat lengthy discussion. Every phase of the matter was thoroughly gone into, and as a result of the discussion of the changing conditions, the very great added expense in publication and maintaining the present high standard of our state Journal, and with thought for future legislative and executive work that will entail the expenditure of considerable money, it was obvious to this body that an increase in the annual assessment was absolutely necessary if we are to maintain our present high standards as a medical organization, to say nothing of continuing the work just begun along legislative lines.

Today we face a new era and a period of reconstruction in which we must take our place as leaders or suffer ourselves to be led by those who know but little of and care considerably less for our wants and needs. It is probably not altogether the fault of the laity that they so eagerly follow a new cult as it is introduced with its vaunted claims of cure-all, or that they are beguiled by the willful advertisement of quack or charlatan who guarantees to cure, as long as their money lasts, but who in reality is a vulture preying on the ignorance of diseased humanity. It is as much a part of the duty of the medical profession to conduct a campaign of education in this matter as it is to regulate the spread of contagion by quarantine.

If the care of the sick and injured in this commonwealth is of sufficient importance to be regulated by law it would seem absolutely necessary that those engaged in the art should be adequately represented at the capitol in Harrisburg where information dealing with proper legislation on matters of this character could be obtained and weighed by those who have these matters in charge. This plan has been successfully carried out on a voluntary scale during the present session and I am informed by those who have had the opportunity to observe the results that they have never been more successful.

If health insurance is forced on the people of this state the medical profession, in order that it may live and be perpetuated in the same high order that prevails today, must see to it that it is to be adequately remunerated for the faithful services it will be expected to render.

The only logical culmination for successfully carrying out the ideas here enumerated is that the organized medical profession should sponsor the whole proposition and to do so means the expenditure of a considerable sum of money which can be procured only by increasing the *per capita* assessment annually for the next few years or until our objective has been reached, and it will require not less than $5 from each individual member to make the present plans a success. To some this may at first thought seem an unwarranted increase but a very careful estimate of the actual necessary funds cannot place the amount at less, and each component county society should at once begin to shape its affairs to conform to the new assessment for 1920. H. W. A.

COMPULSORY HEALTH INSURANCE

To deprive any citizen of the privilege of putting his life in the hands of a physician of his choice is un-American and it is equally un-American to compel a physician to attend a person in sickness when for a good reason he would like to be excused. If a man must submit his life to the dictates of a bureaucracy, such a man is robbed of his liberty and independence as it is related to that which is above all things sacred to him.

Where is the justice or equity of discriminating legislation that would advocate a bureaucracy to control and dominate the members of the medical profession to the extent that such bureaucracy shall determine the personnel of a physician's clientele and the fee he may charge regardless of the qualifications attained and the specially skilful service rendered? One cannot be in sympathy with such a contemptible state-wide lodge practice. Why should the members of the medical profession, who at present rank in qualifications with that of any other profession or calling, be commercialized at the instigation of comparatively few apparently self-appointed ultra enthusiasts who pose as deeply interested in the physical welfare of the people of our commonwealth and who do not see fit to apply the same principle in every other line of human endeavor? It is just as un-American for a bureaucracy to determine the clientele of a physician as it would be to determine the clientele of a butcher, a baker, or a candlestick maker. There is no difference in the application of the principle.

The physical welfare of our people was never so well taken care of as now. Preventive medicine has made tremendous progress and is the outgrowth of work accomplished by the organized medical profession. Nowhere in our country was it the result of the importation of any foreign scheme that has brought ruin to the profession wherever adopted. This whole propaganda appeals to one as artful sophistry, a species of Michiavelianism. G. E. H.

MEDICAL VETERANS OF THE WORLD WAR

The secretary of the Medical Society of the State of Pennsylvania has been furnished with application blanks for membership in the Medical Veterans of the World War, also a copy of its Constitution and By-Laws. We note that Article 2 of the Constitution sets forth the object of the organization as follows:

> The object of this association shall be to propagate fellowship, to prepare history, to secure cooperation for the mutual benefit of the medical men who served in the world war, 1914-1918, and for the mutual improvement and social intercourse of its members.

Col. F. F. Russell, M. C., U. S. A., Army Medical School, Washington, D. C., is secretary of the organization. Physicians eligible to membership and desiring application blanks may have same on request by addressing the secretary of the state medical society, Dr. Walter F. Donaldson, 8103 Jenkins Arcade, Pittsburgh.

LIST OF MEMBERS IN THIS NUMBER

In this issue of The Journal some departments have been abbreviated to allow for the annual publication of the list of officers and members of the component county medical societies. One not familiar with the details will hardly realize how much time and pains have been given by the state and county society secretaries to make this list as accurate and complete as possible. Publishers, insurance companies and others have learned to value this number as a reference directory of the better element in the profession, but it is published especially for the information of our members and should be preserved as there is frequent use for it.

STATE NEWS ITEMS

MARRIED

Dr. Julius H. Comroe, York, and Miss Catherine L. Baker, in Philadelphia, May 16.

Dr. Dwight E. Long and Miss Emma J. Batdorf, both of Freeburg, in Greenville, S. C., Nov. 28, 1918.

Dr. Joseph Leo McGinley, Lieutenant, M. C., U. S. Army, Wilkes-Barre, and Miss Alberta Crittenden Allen, New York City, April 17.

Dr. George R. Harris, Jr., Lieutenant, M. C., U. S. Army, Pittsburgh, and Miss Sibyl Maude Burton, Walton-on-the-Hill, Stafford, England, February 17.

Dr. Elsie Rau Treichler and Mr. Hiram Ready, both of Philadelphia, May 1.

DIED

Dr. Charles S. Dwyer (Bennett Med. Coll., Chicago, '88) of Troy, at Columbia Cross Roads, April 15, aged 62, from cerebral hemorrhage.

Dr. Edward William Dean (Hahnemann Med. Coll., Philadelphia, '75) in Pittsburgh, April 27, aged 69, from pneumonia.

Dr. Bryan O'Brien (Univ. of Pennsylvania, '81) in Philadelphia, April 11, aged 78.

Dr. Benjamin Brannan Reath (Univ. of Pennsylvania, '87) in Philadelphia, recently, from pneumonia, aged 56.

Dr. James C. Stem (Cincinnati Coll. of Med. & Surg., '78) in Goldsboro, May 18, aged 64, from paralysis.

Dr. E. C. Emerick (Univ. of Pennsylvania, '86) in Harrisburg, May 6.

Dr. George M. Getze (Hahnemann Med. Coll., Philadelphia, '77) of Tarentum, in Clifton Springs, N. Y., May 3, aged 64.

Dr. William Beam (Jefferson Med. Coll., '01) of Philadelphia, in Khartoum, Africa, April 15, aged 54, from heart disease.

Dr. Ralph M. LaShelle (Jefferson Med. Coll., '88) in Media, May 20, aged 77.

ITEMS

Dr. H. H. Stewart, Pottsville, has accepted a commission as captain in the Medical Reserve Corps, U. S. Army.

Dr. O. H. Perry Pepper, St. Davids, who is at a base hospital in France, has been promoted to lieutenant-colonel.

Capt. Aaron L. Ruth, M. C., U. S. Army, Conshohocken, has returned from almost two years' service in England and Ireland.

Dr. George K. Strode, Harrisburg, has been appointed assistant chief health inspector of the Department of Health of Pennsylvania.

Joel T. Boone, M. C., U. S. Navy, Pottsville, has been awarded the Croix de Guerre with palm for bravery under fire at Rheims last October.

Dr. Cornelius C. Wholey, Pittsburgh, who has been psychiatrist to the U. S. General Hospital at Roland Park, Md., since December, 1918, has returned home.

Dr. Walter E. Lundblad, Captain, U. S. Medical Corps, formerly bacteriologist and pathologist at the Robert Packer Hospital, Sayre, has returned from duty overseas.

Osteopath Bill Defeated.—The Goehring bill giving osteopathic practitioners the same authority in hospitals as medical men was defeated in the house, April 22, 126 by 23.

The Jewish Hospital, Philadelphia, has been bequeathed by the will of the late Moses J. Blitz the income from an estate of $30,000, for the maintenance of three beds.

Capt. Lever F. Stewart, M. C., U. S. A., Clearfield, who, since his return from France, has been in charge of U. S. General Hospital No. 36 at Detroit, Mich., has been mustered out of the service.

Easton Plans to Erect Hospital.—At a joint meeting of the trustees and advisory board of the Easton Hospital it was decided to begin work for the erection of a new hospital at Easton.

Red Cross Nurse Dies in France.—Miss Mary Catherine Stevens, Reading, died in France of meningitis on May 21, following a mastoid operation. She was given a military burial at St. Nazairne.

Dr. William E. Ashton, Philadelphia, Lieutenant-Colonel, M. R. C., who served with the Three Hundred and Ninth Field Artillery through all the operations of the first army, has returned from overseas.

Health Officers at Mont Alto.—Health officers throughout northeastern Pennsylvania have been invited to attend a two weeks course in health and sanitation, during June and part of July, at Mont Alto.

Tablet in Honor of Dr. Dixon.—On June 6, a tablet in memory of Dr. Samuel G. Dixon was unveiled at the Hamburg Sanatorium; this was a gift of the patients at the sanatorium at the time of his death.

Robert G. LeConte, Lieutenant-Colonel, M. C., U. S. Army, who went to France with the Methodist Hospital Unit and was naval consultant for Pershing's forces, has been made a chevalier of the Legion of Honor.

State Quarantine Service at Marcus Hook was discontinued June 1, the federal government taking over the entire quarantine service, thus saving a double inspection of ships befoŕe they reach the Port of Philadelphia.

Drs. Alice Weld Tallant and Maude Kelly, Philadelphia, have been awarded the Croix de Guerre and Service de Sante decorations. They are the only American Women given the ranks of major in the French army.

Dr. Henry C. Earnshaw, Bryn Mawr, Major, M. R. C., who served twenty-two months in the army, first with Base Hospital No. 10, and then with the American Sixth Army Corps, as a medical consultant, has returned home.

Dr. John N. Sprowls, Claysville, second vice president of the Medical Society of the State of Pennsylvania, was recently commissioned a Passed Assistant Surgeon with the rank of captain in the reserve of the Public Health Service.

Capt. Charles P. Stahr, M. C., U. S. Army, of Lancaster, has returned home with some of the ambulance boys, who saw their hardest service at Lecharmel, in the Chateau-Thierry sector and during the Argonne drive that followed.

Dr. Florence C. Child, Philadelphia, has returned from France where she spent eighteen months with the division of child hygiene of the American Red Cross.

Capt. J. R. T. Snyder, Altoona, who served eighteen months in the British Army with the famous Fifty-First Highland Division, has been honorably discharged.

Bequests.—The Children's Hospital of Philadelphia has received $4,000; the Philadelphia Home for Incurables and the Maternity Hospital, each $5,000, and contributors of Pennsylvania Hospital, $10,000, by the will of Thomas Shelton Harrison.

Col. George M. Coates, M. C., U. S. Army, Philadelphia, who was commanding officer of Base Hospital No. 56 up to the time the armistice was signed, following which he went to Dijon and St. Aiglon as an ear, nose and throat specialist, has returned home.

Major S. Calvin Smith, M. C., U. S. Army, Philadelphia, returned from Marseilles, France, in charge of the army personnel aboard the Patria, which arrived in New York, May 10. Not one case of sickness was reported on the entire voyage of two weeks.

Provost Edgar Fahs Smith celebrated his sixty-third birthday, May 23. A loving cup was presented him by the students of the University of Pennsylvania. Provost Smith has been professor for the last thirty years at the University, and provost for eight years.

Dr. Joseph Leidy, Philadelphia, Major, M. R. C., U. S. Army, medical director of the Department of Gas Defense, delivered the annual address before the Historical Society of Pennsylvania, May 12, his subject being "Poison Gas in War," which was illustrated by lantern slides.

Dr. John H. Gibbon addressed the graduating class of the Jefferson Medical College Hospital Training School for Nurses, May 22. Dr. Gibbon, who headed Base Hospital No. 10 in France, held up as an ideal to the thirty-one graduates the nurses who served with this unit in the war.

Dr. Ellen C. Potter, Philadelphia, of the National Board of the Y. W. C. A., and formerly of the women's division on training camp activities, made the principal address at a recent meeting of the Woman's Club of Cynwyd, her subject being "Teaching Social Hygiene in Public Schools."

Capt. William H. Leffler, Marine Corps, Twenty-Third Infantry, Second Division, of McKeesport, has been cited for bravery by Marshall Petain in the name of the French government. He received the Croix de Guerre on April 13 and was made regimental surgeon of the Twenty-Third Infantry.

Dr. John H. Gibbon, Philadelphia, Lieutenant-Colonel, M. C., U. S. Army, Professor of Clinical Surgery in Jefferson Medical College, delivered an address on "The Progress of Surgery During the War," at the twelfth annual meeting of the Under-Graduate Medical Association of the University of Pennsylvania.

Chester to Aid Hospital.—The Chester City Council passed on first reading, May 19, an ordinance providing for the gift of $25,000 to Chester Hospital to establish and maintain a place for the cure of communicable, contagious and infectious diseases. Council will also contribute $2,500 annually for the support of the new department.

Negro Hospital Dedicated.—Buildings of the Protestant Episcopal Divinity School on Woodland Avenue, occupying the entire block between Fiftieth and Fifty-First Streets, Philadelphia, recently purchased by the Mercy Hospital and School for Nurses, was dedicated May 25. This is the largest hospital in the United States owned and controlled solely by negroes.

Smith Memorial Maternity Hospital.—At the graduation exercises of the Training School for Nurses of the Lankenau Hospital, Philadelphia, April 9, announcement was made that a sum in excess of $125,000 had been donated by Mr. Charles Smith for the construction of a new maternity hospital to replace the present building, also the gift of Mr. Smith.

GENERAL NEWS ITEMS

Colonel William J. Mayo, of Rochester, Minn., has been awarded the Distinguished Service Medal by the War Department.

Physicians of Allies Visit United States.—Sixty leading physicians, representing the countries allied with America in the war, arrived in New York June 2, to attend the annual meeting of the American Medical Association at Atlantic City, June 9-13.

The Medical Society of the State of New York at its annual meeting in Syracuse, May 6-9, chose New York as its place of meeting for 1920. Dr. Grant C. Madill, Ogdensburg, was elected president, and Dr. Floyd M. Crandall, New York, was reelected secretary.

The Connecticut State Medical Society at its annual meeting in Bridgeport, May 21-22, elected Dr. Charles B. Graves, New London, president, and Dr. John E. Lane, New Haven, was reelected secretary. The next meeting will be held at New Haven, May 19-20, 1920.

American Hospital in London.—Plans are under way for a $5,000,000 hospital in the West End of London. One of the principal objects of the hospital is the foundation of an institute for clinical study and research on the lines of the Rockefeller Institute in New York.

Physical Training of Boys in New York State.—It was announced at a recent meeting of the Physical Education Society of New York, that physical training will be provided for all boys in the state between the ages of 16 and 18 years, who are included in the universal military training law. It is estimated that this law affects some 220,000 boys.

Deaths in Army from All Causes to Date.—An official report from the Surgeon-General, issued by the War Department, April 29, gives the total number of deaths reported in the army during the war to date as 111,179. Of this total 56,639, or 51 per cent., were from disease, 43 per cent. in battle or from wounds received in battle and 6 per cent. from other injuries. Of the deaths from disease about 12,000 have occurred since hostilities ceased.

The National Conference of Social Work held its forty-sixth annual meeting at Atlantic City June 1-8. Miss Julia C. Lathrop, chief of the Federal Children's Bureau, is president of the Conference. "Health and the Standard of Living" was the general theme of the Conference Division on Health, covering the topics of housing, the family food supply, tuberculosis, medical and nursing care, infant mortality, industrial hazards, and venereal disease.

Against Compulsory Health Insurance.—The House of Delegates of the Medical Society of the State of New York adopted the following resolution at its annual meeting at Syracuse, May 6, 1919: *Resolved*, That the delegates from this society to the House of Delegates of the American Medical Association be and are hereby instructed to introduce a resolution, against compulsory health insurance, in the House of Delegates of the American Medical Association and to support it in every way possible.

The American Roentgen-Ray Society will hold its twentieth annual meeting in Saratoga Springs, N. Y., September 3-6, under the presidency of Dr. David R. Bowen, Philadelphia.

Osteopathic Bill Rejected.—The bill the osteopaths intended to be submitted to the Quebec legislature, was thrown out in committee. The medical profession took the stand that osteopaths should qualify under the same conditions necessary for all specialists to obtain legal recognition.

Modern Medicine, a new publication to be devoted to "the application of medicine and allied sciences to industrial efficiency and national health" has been issued. It includes the *Interstate Medical Journal.* It is under the editorship of Drs. Alexander Lambert and S. S. Goldwater, and under the managing editorship of Mr. John A. Lapp, formerly executive secretary of the health insurance commission of Ohio. The aim of this publication is to present each month the practical, helpful results of advanced thought in industrial hygiene, public health and organized medical service.

White Plague Barred 62,000 from the Army.—Sixty-two thousand men afflicted with tuberculosis were barred from admission into the National Army, 20,000 others who reached camps were discharged for the same reason. At army tuberculosis hospitals, the National Tuberculosis Association announced May 21, 6,000 men still in the service are being treated. Soldiers or sailors honorably discharged since October 6, 1917, and suffering from tuberculosis will be given free hospital care upon application to the United States Public Health Service or the Bureau of War Risk Insurance, according to the association.

Colonel Antoine Depage, professor of surgery at the University of Brussels, and head of the Belgian Red Cross, who was connected with the Belgian Base Hospital at LaPanne, is visiting some of the principal cities of the East to thank the people who contributed through his wife to the Belgian relief fund. On May 12 he announced his plan for building a memorial hospital at Brussels to bear the names of Edith Cavell and Marie Depage, his wife, who was one of the victims of the Lusitania disaster, drowned while returning with the funds collected in this country. It is reported that Mr. Lloyd George has started a fund in England to defray half the expense of the institution. Colonel Depage hopes to raise the remainder in the United States.

Soldiers Gain Twelve Pounds Each.—"Soldiers who fought against Spain in 1898 lost in weight on an average of 22 pounds each; the average American soldier at the end of the fighting in 1918 weighed 12 pounds more than he did when the selective service act or his own volition brought him into the army." The food problem of an army of 3,700,000 Americans is visualized in the official war "material" history, made public May 16, by the War Department, by considering the force as a single man and the entire period as one dinner hour. Articles comprised in the army ration assumed these totals: Roast beef, 800,000,000 pounds; bacon, 150,000,000 pounds; flour (bread), 1,000,000,000 pounds; butter, 17,500,000; oleomargarine, 11,000,000; baked beans, 150,000,000 pounds; potatoes, 487,000,000 pounds; onions, 40,000,000 pounds; corn, beans and peas, 150,000,000 cans; tomatoes, 190,000,000 cans; prunes, peaches and apples (for dessert), 107,000,000 cans; sugar, 350,000,000 pounds; coffee, 75,000,000 pounds; evaporated milk, 200,000,000 cans. The bill for this "meal" amounted to $727,000,000 to December 1, 1918, the per capita cost having risen from 4 cents in 1897 to 48 in 1918. At the time of the armistice, American soldiers in France were consuming 9,000,000 pounds of food daily. Moving this studendous quantity over the 3000-mile line of communication was the principal obstacle to be overcome.

COMMUNICATION

"EVIDENCE OF CURE OF MALIGNANCY BY HIGH TEMPERATURE"

To the Editor:—Dr. Evan O'Neill Kane, in a communication to the May Journal, concerning the cure of malignancy by high temperature, asks readers if they had noted such cures of cancer by febrile hyperpyrexia.

That fever temperatures could produce such an effect is impossible, of course, as it is well known that a temperature of plus 160 F. is necessary to destroy cancer cells at the periphery of the growth, while 212 F. is the usual working temperature in the direct path of the current. Sincerely yours,

G. Betton Massey, Philadelphia.

BOOKS RECEIVED

A Textbook of Practical Therapeutics. With especial reference to the Application of Remedial Measures to Disease and Their Employment Upon a Rational Basis. By Hobart Amory Hare, M.D., B.Sc., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College of Philadelphia; Physician to the Jefferson Medical College Hospital; One-time Clinical Professor of Diseases of Children in the University of Pennsylvania; Surgeon, U. S. N. R. F. Seventeenth Edition, Enlarged, Thoroughly Revised, and Largely Re-written. Illustrated with 145 engravings and 6 plates. Philadelphia and New York: Lea and Febiger. Price, $5.50.

New and Nonofficial Remedies, 1919, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1919. Cloth. Price, postpaid, $1. Pp. 388 + XXIX. Chicago: American Medical Association, 1919.

In this book are listed and described those proprietary remedies which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association and which should, therefore, merit consideration by the medical profession. The book also includes the newer nonofficial nonproprietary remedies that seem to the Council to give promise of therapeutic value. New and Nonofficial Remedies makes use of the Federal Trade Commission names for products originally introduced into this country by German manufacturers. These include arsphenamin, barbital and procain preparations replacing salvarsan, veronal and novocain respectively. The Council has omitted from the present edition all articles not now on the market, many of them originating in enemy countries. Among the most valuable features of this book for the physician are the thorough discussions of various therapeutic substances, including composition, dosage, therapeutics, actions and uses, etc. The articles on digestive ferments, serums and vaccines and silver preparations have particularly been thoroughly revised, and it will be to the interest of every physician to acquaint himself with the present status of knowledge regarding the use of these preparations as brought out in this book. In a supplement to the book are given references to the reports of the Council on Pharmacy and Chemistry and the publications of *The Journal of the American Medical Association* regarding proprietary articles which have not been accepted. The material available in this book is nowhere else available, and its authoritative character makes it a therapeutic guide which should be in the hands of every practitioner.

A Treatise on Orthopedic Surgery. By Royal Whitman, M.D., M.R.C.S., England, F.A.C.S., a Director of Military Orthopedic Teaching; Chairman of the Medical Advisory Board for Orthopedics in New York City; Associate Surgeon to the Hospital for Ruptured and Crippled; Orthopedic Surgeon to the Hospital of St. John's Guild; Consulting Orthopedic Surgeon to St. Agnes' Hospital for Crippled and Atypical Children, White Plains, to the New York State Board of Health, etc. Sixth Edition, Thoroughly Revised. Illustrated with 767 engravings. Philadelphia and New York: Lea and Febiger, 1919. Price, $7.

Human Infection Carriers: Their Significance, Recognition and Management. By Charles E. Simon, B.A., M.D., Professor of Clinical Pathology in the University of Maryland School of Medicine and the College of Physicians and Surgeons, Baltimore, Md. Philadelphia and New York: Lea and Febiger, 1919. Price, $2.25.

Elementary Bacteriology and Protozoology. For the Use of Nurses. By Herbert Fox, M.D., Director of the William Pepper Laboratory of Clinical Medicine in the University of Pennsylvania; Pathologist to the Zoological Society of Philadelphia, etc.; Major, M. C., U. S. A. Third Edition, Thoroughly Revised. Illustrated with 68 engravings and 6 colored plates. Philadelphia and New York: Lea and Febiger, 1919. Price, $1.75.

BOOK REVIEWS

THE WHOLE TRUTH ABOUT ALCOHOL. By George Elliot Flint. With an introduction by Dr. Abraham Jacobi. Octavo, 294 pages. Published March, 1919. New York: The Macmillan Company. Price, $1.50.

The author in this book presents the strongest possible pleas for moderate drinking of beer, ale and light wine. Here are some of the chapter titles: Human Psychology and National Prohibition; After Prohibition, What Next?; Do Citizens Need Nurses?; The Tyranny of National Prohibition; Would Private Distillation Follow National Prohibition?; National Deceit After National Prohibition; Let the Drink Problem Take Care of Itself; The Workingman's Club—The Saloon; The Psychology of Fanatics; Are Abstainers Superior?; etc. There are thirty-one chapters.

The general trend of the arguments may be divined as one reads the chapter heads. None of the arguments are new, though the author has succeeded in dressing them up in the latest style, thus making them quite attractive and presentable even if they are not convincing. The author falls into the very error of which he accuses the prohibitionists; namely, of citing individual examples as the basis and justification for a generalization. For example, the author, a son of the revered Dr. Austin Flint, began to drink "moderately but daily" at the early age of 18, evidently led to the use of alcoholic beverages through the example, perhaps through the solicitation, of his distinguished paternal ancestor who "was in the habit of drinking the heavier imported beers, regularly and moderately every night."

In his young manhood the author discovered that he could rest well after a moderate evening indulgence in ale and arise rested and refreshed the next morning. Assuming that his recuperation was due to the use of alcohol, and failing to discern that it may have been due to his abounding good health and strong constitution, and in spite of a really deleterious influence of alcohol, the author cites his personal experience as a convincing proof that the lighter alcoholic beverages are not only harmless but "wholesome, tonic and strengthening," and furthermore that they are "not habit forming."

It was a great piece of diplomacy for the author and the publisher to secure from the venerable Dr. Abraham Jacobi the laudatory introduction. We, Dr. Jacobi's confrères of a younger generation, naturally listen attentively and respectfully to his statements. We are not necessarily convinced, however, and turn for confirmation, of the empiricism of the previous generation of medical men, to the modern university laboratory and clinics where accurate observation is made and thousands of cases exhaustively studied and reported with conscientious exactness and completeness. The result of such extended studies has led the American Medical Association, the largest organization of medical men in the world, to take a decided and unequivocal stand against alcohol both as a medicine and as a beverage in light alcohol content (ales, beer, wine) as well as in the high alcohol content (whisky or brandy). To offset the name of Dr. Jacobi the reviewer would cite the names of Dr. Frank Billings, Professor of Medicine, University of Chicago; Dr. W. W. Keen, Professor of Surgery, Jefferson Medical College, and Dr. Victor C. Vaughan, Professor of Physiological Chemistry, University of Michigan. Each of these men enjoys an international repute, each has been president of the American Medical Association, and each stands for prohibition of alcohol as a beverage and for its discontinuance as a remedy in the practice of medicine.

The author frequently cites John Koren and his book, "Economic Aspects of the Liquor Problem." It is unfortunate that the author has drawn so largely from this writer who was thoroughly discredited before the world in the hearings before the U. S. Senate Judiciary Subcommittee on "Brewing and Liquor Interests and German Propaganda." At this hearing it was discovered that Koren was writing certain articles for the *Atlantic Monthly*, posing as a disinterested party but all the while receiving from the United Brewers' Association $5,000 a year, a sort of subsidy or retainer.

The author also quotes Dr. Starke voluminously, but Dr. Starke, who graduated in Leipsig in 1891, practiced medicine six months, was assistant physician in the lunatic asylum at Goddelan, Germany, for fourteen months, after which he retired, posing as a "physiologist," but he has no standing among physiologists.

The author is most unfortunate in his few attempts to be scientific and accurate. For example, on page 85 we read: "A truth, which I have failed after diligent search to find in prohibition literature, is that every particle of sugar taken into the human stomach is changed into alcohol, carbonic acid and water by the digestive ferments. And all carbohydrates such as potatoes, bread, macaroni, rice, cereals, peas, kidney and lima beans, lentels, Boston baked beans, pastries and the farinaceous puddings are likewise after the ingestion changed, within the bodily economy, into alcohol, carbonic acid and water. In the case of carbohydrates (starches), however, the starch is changed by diastase into sugar before it becomes alcohol, etc." The reason why the author fails to find mention of the remarkable statement set forth above is very simple: It is not a fact. Alcohol is not one of the products of normal digestion of sugar and starch in the human stomach. The author may refer to any modern work on digestion, nutrition and dietetics and he will find that his alleged "truth" is not confirmed.

It is true that very small amounts of alcohol are found in the muscle tissue, normal working muscle, but this alcohol thus found is a midproduct of destructive catabolism and like most of these midproducts of catabolism is a toxin, and it is promptly oxidized by the liver to make it harmless, as is the case with toxins in general as they make their way to the liver. W. S. H.

HUMAN INFECTION CARRIERS. Their Significance, Recognition and Management. By Charles E. Simon, B.A., M.D., Professor of Clinical Pathology in the University of Maryland School of Medicine and the College of Physicians and Surgeons, Baltimore, Md. 8vo., pages 250. Philadelphia and New York: Lea and Febiger, 1919. Price, $2.25.

The volume before us is a timely contribution to an important and practical subject. The knowledge that an individual may harbor the germs of disease in the absence of symptomatic manifestations, and thus be the intermediary in the transmission of that disease, is a matter of prime epidemiologic significance. This discovery has helped to account for many an otherwise obscure outbreak and for the unyielding persistence of some epidemics, and to suggest means and measures of prevention, correction and relief. The subject is discussed specifically with respect to Asiatic cholera, diphtheria, plague, typhoid fever, paratyphoid fever, epidemic cerebrospinal meningitis, bacillary dysentery, acute poliomyelitis, pneumococcus pneumonia, streptococcus infections and influenza; and in an appendix are given various laws and ordinances and rules and regulations pertaining to carriers, the matter of maritime quarantine, the quarantine laws of the United States and interstate quarantine regulations. E.

SURGICAL TREATMENT. Vol. III. A Practical Treatise on the Treatment of Surgical Diseases. By James Peter Warbasse, M.D., formerly Attending Surgeon to the Methodist Episcopal Hospital, Brooklyn. Octavo, pages 861; illustrations 864. Philadelphia and London: W. B. Saunders Company. With Separate Index Volume of the three Volumes.

This last volume of Warbasse's Surgical Treatment deals with hernia, diseases of the rectum and anus, vermiform appendix, liver and gallbladder, genitourinary organs of male and female, surgical affections of the upper and lower extremities, plastic and cosmetic surgery as well as bandaging and other topics pertaining to minor surgery. The author has maintained the high standard of illustrations and letter press observed in the previously reviewed volumes; and as a result has produced a very valuable reference book of great usefulness to general surgeons and even specialists in surgery.

The plan of the publishers in issuing a separate volume containing a complete index seems to the reviewer to be more advantageous to one consulting this three-volume work than the usual custom of publishing the general index at the end of the last volume of the series. The index, which consists of 123 pages, will be sought as a first step when a busy medical man desires to consult the encyclopedic volumes of Warbasse's Surgery. J. B. R.

COUNTY SOCIETY REPORTS

BERKS—MAY

The Berks County Society met at the State Sanatorium, Hamburg, May 13. Dr. George Kunkle, Harrisburg, spoke on "Surgical Problems in the Treatment of Pulmonary Tuberculosis." He disparaged the draining of tuberculosis abscess which has not as yet had mixed infection, but advised the injection into the cavity of 2 per cent. formalin in glycerin and then to close it to prevent mixed infection, and in joints this will prevent ankylosis. In glandular cervical involvement, remove the glands and touch cavity with 5 per cent. iodin.

H. E. Moses, assistant engineer of the department of health, presented a paper on "Some Relations of Sanitary Engineering to Preventive Medicine." The value of a human life cannot be estimated, and the child of today may be the human benefactor of tomorrow. The medical profession and the skilled sanitarian should work conjointly. The activities of the sanitary engineer deal with the water supply, sewerage, disposal of wastes, proper marketing of food products such as milk and ice, and the fly menace. An ample supply of pure water is of prime importance to the individual and the community, and the sanitary engineer must provide for the purification of the public water supply; for the removal of sewage from the community immediately after its production, purifying it at a moderate cost, and for the control of stream pollution.

Today there are 150 sewage treatment works in Pennsylvania. The first municipal works in the state was established in Reading in 1907 and is still giving good service. Below the city 1,000,000 people obtain their water supply from the Schuylkill, into which stream the effluent from this plant is discharged, placing a heavy burden on these works. The effect of the installation of water purification plants is reflected in the remarkable lowering of the typhoid fever rate in Pennsylvania. In 1918 we had less than 1,200 deaths as against 4,000 in 1906. The health department has sewage treatment works at each of its sanatoria. The disposal of wastes, incident to community life, constitutes a vexatious problem. The proper disposal of manure in towns and cities is being insisted on because of its relation to fly breeding, as well as the eradication of mosquito breeding places. Improvements in the method of production of milk and its distribution were also discussed.

Clara Shetter-Keiser, Reporter.

CHESTER—APRIL

The Chester County Society met at the Chester County Hospital, West Chester, April 15, with President Taylor in the chair. A motion was passed to send the legislative committee to Harrisburg to meet the representatives from Chester County in an effort to defeat the osteopathic bill in the state legislature. This bill which would put the osteopaths and other irregular practitioners on an equal footing with regular physicians, in spite of their much shorter period of education and training, seemed most objectionable to all members of the society.

Dr. Sharpless showed a most interesting case of optic thalamus with resultant paraplegia and choroid movements. Interesting cases of otitis media and empyema were shown by Drs. Hemphill, Aiken and Pennell. After a most enjoyable luncheon served by the nursing staff of the hospital, meeting adjourned.

Charles H. Stone, Reporter.

CLEARFIELD—MAY

The Clearfield County Society met at the Cottage State Hospital, Philipsburg, May 14, with President Cowdrick in the chair and twenty-nine members in attendance. The program presented was a symposium on venereal disease, which awakened considerable discussion. Dr. W. B. Henderson opened the subject with an interesting historical sketch and related its early recognition. Reading from a volume printed about 300 years ago, he showed how definitely the physicians of those days diagnosed syphilis and also how grotesquely they treated it. One notable commentary on their treatment was that they all effected cures.

Dr. A. C. Lynn of Osceola Mills, who was welcomed back after a year and a half abroad, spoke of the care of the soldiers in the A. E. F. and outlined the system and treatment applied at the "prophylactic" stations. He said these were the first organized activity when a new camp was established, and that they were liberally patronized. Dr. J. W. Gordon incidentally spoke of the State Department of Health's effort to subdue the social evil and called attention to the recent establishment of a free dispensary for the treatment of genito-urinary diseases at Clearfield. The War Fund Committee reported that in view of the fact that practically all our members have returned, the fund would cease on July 1.

J. Paul Frantz, Reporter.

FAYETTE—MAY

The Fayette County Society met in Uniontown, May 1, with thirty-one members present. President Baum introduced Dr. Frederick A. Rhodes of Pittsburgh, who read a very able paper on "Surgical Intervention in Epilepsy." His paper dealt with both the medical and surgical side of the subject, and proved to all those who were so fortunate as to hear it the wonderful advancement which has recently been made from the surgical aspect; especially successful have been those cases showing an appendiceal involvement.

During the past year the society has missed but two meetings, even though so many of the members have been absent in the service. It has been the object of the society to have a paper presented by some one of national prominence at each meeting, and we have been most happy in accomplishing this so far. President Baum, together with his active and energetic secretary, may be depended on to have something interesting as well as instructive at each meeting, and those members who miss a meeting are most unfortunate.

Charles H. Smith, Assistant Reporter.

TIOGA—APRIL

The Tioga County Society met, April 28, at the Blossburg State Hospital with a good attendance. A clinic on fractures was conducted most thoroughly by Dr. S. D. Molyneux. An interesting feature was the study of excellent series of radiographs, in each case of fracture, giving a very good illustration of the progress of repair in different types as well as the more modern methods of the treatment of fractures. Good results were demonstrated by treating fractures of the upper end of the humerus, those above the insertion of the pectoralis major muscle, in abduction and external rotation with traction by means of the Buck's extension. Passive motion should be begun very early. These cases get freedom in the upward motion of the arms.

Lloyd G. Cole, Reporter.

WAYNE—MAY

The Wayne County Society met at the Allen House, Honesdale, May 15, with an exceptionally large attendance. It was decided to pay the per capita assessment for the year 1918 for members in the service; the assessment for 1919 has already been paid. The annual dues of the society were raised from $4 to $5 in order to meet necessary expenses. Officers for the ensuing year were elected. The selection of Dr. L. B. Nielsen for president was a particularly happy one as a more faithful and untiring worker for the welfare of our society could hardly be found among our members.

Capt. O. J. Mullen gave a very instructive talk on his experiences abroad and his contribution to the program was very much appreciated and followed by a spirited discussion. Those members who failed to be present missed an instructive meeting but are especially invited to attend the next one scheduled to be held at Hawley in July.

E. O. Bang, Reporter.

PUBLIC HEALTH AND PUBLIC WELFARE IN SIAM

Vice Consul Carl C. Hansen at Bangkok reports (*Commerce Reports*, Dec. 27, 1918) that public health and welfare has been advanced during the year in Siam by extending the operation of sanitary regulations to several towns in the provinces. Two American doctors are now in the Siamese sanitary service. Dr. E. M. Barnes, of the International Health Board has successfully cooperated with the Siamese health office in the control of hookworm. American medical men working in the missions, and those doing work among lepers, begun some years ago by Dr. J. W. McKean of the American mission in northern Siam, have received expressions of appreciation by the Siamese government, and contributions toward the expenses of this work have been made during the year.

OFFICIAL TRANSACTIONS

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Organized 1848 Incorporated, December 20, 1890

Officers and Members of the Sixty-Three Component County Societies

ADAMS COUNTY SOCIETY

(Organized Aug. 25, 1904.)

President...J. C. Felty, Gettysburg.
V. Pres.....E. A. Miller, East Berlin.
George Seaks, New Oxford.
Sec.-Treas. and Rept..Henry Stewart, Gettysburg.
Censor......J. P. Dalbey, Gettysburg.
Committee on Public Policy and Legislation:
Henry Stewart, Gettysburg.
R. B. Elderdice, McKnightstown.
Harry E. Gettier, Littlestown.
Exec. Com..J. C. Felty, Gettysburg.
Henry Stewart, Gettysburg.

Stated meetings the second Friday in each month at 2 p. m. in Gettysburg or other place as may be determined by vote of the society. Election of officers in January.

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(Organized April 20, 1865. Incorporated Jan. 30, 1892)

(Pittsburgh is the postoffice when street address only is given.)

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Meetings held at Pittsburgh Free Dispensary Building, 43 Fernando Street (third floor), Pittsburgh. Scientific Meetings, third Tuesday of October, November, December, January, February, March, April, May and June, 8 p. m. Business meetings, second Tuesday of January (the annual meeting), second Tuesday of April and October, 8 p. m.

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Boucek, Charles F., 812 Lockhart St., N. S.
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Brown, Lu Van Leer, Castle Shannon.
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Brown, W. E., 312 Ninth Ave., Homestead.
Bryant, William C., Jenkins Arcade Bldg.
Bubb, George S., 817 Island Ave., McKees Rocks.
Buchanan, John J., 1409 N. Highland Ave.
Buck, Clarence John, 6506 Frankstown Ave.
Buka, Alfred J., 516 Federal St., N. S.
Bulford, Daniel N., 100 E. North Ave.
Bulger, Alvin Edmonds, 836 Braddock Ave., Braddock.
Bumgarner, Frank O., 615 Highland Bldg.
Burke, John G., Jenkins Arcade Bldg.
Burkett, John Wesley, Moon Run.
Burleigh, William T., 825 N. Negley Ave.
Burns, Harry B., Fulton Bldg.
Burns, Richard G., 8 Dunlap St., N. S.
Burt, James C., Westinghouse Bldg.
Bushong, Park W., 1824 Webster Ave.
Buvinger, Charles I., 702 Bessemer Bldg.
Cadwalader, John S., R. D. 6, Meadville (Craw. Co.).
Caldwell, Bert W., Allegheny General Hospital.
Caldwell, Charles S., Noble and Washington Sts., Swissvale.
Caldwell, Francis M., 2117 Carson St., S. S.
Caldwell, J. Clarence, 135 W. Jefferson St., Butler (Butler Co.).
Calhoun, Bruce L., Center St., Verona.
Callomon, Verner B., 353 Melwood St.
Cameron, Donald W., 510 Highland Bldg.
Cameron, Markley C., 510 Highland Bldg.
Cameron, William H., 11 Dunmoyle Pl.
Camp, George H., 5605 Penn Ave.
Campbell, Charles L., 2867 Chartiers Ave.

Campbell, Robert A., 817 Ann St., Homestead.
Campbell, Robert John, Killbuck Sta.
Campbell, William McF., Jenkins Arcade Bldg.
Cancelliere, Andrew R., 6226 St. Marie St.
Carrier, Sydney S., 825 Highland Bldg.
Carroll, Charles H., 1109 Federal St., N. S.
Carroll, Thomas B., Jenkins Arcade Bldg.
Carson, Waid E., 7048 Jenkins Arcade Bldg.
Cashman, Bender Z., Westinghouse Bldg.
Caskey, Walter H., 305 Shady Ave.
Cathcart, Wilson B., 6409 Frankstown Ave.
Cavanaugh, William J., 1211 First Natl. Bk. Bldg.
Cave, William Arthur, Jenkins Arcade Bldg.
Caven, William A., 2125 Fifth Ave.
Chaffee, Burns Stoddard, Jenkins Arcade Bldg.
Chalfant, Sidney A., 7048 Jenkins Arcade Bldg.
Chapman, Ira W., 5709 Penn Ave.
Charles, William S., 2110 Carson St.
Chatham, Edgar T., 3910 Perrysville Ave.
Cheesman, Leroy H., 800 Keenan Bldg.
Christian, William H., 6407 Frankstown Ave.
Clark, Harry E., 2919 Chartiers Ave., Sheridan.
Clark, Harry H., 225 Atlantic Ave.
Clark, H. G., City Home and Hospital.
Clark, James W., 5173 Penn Ave.
Clark, Nelson H., Highland Bldg.
Clark, Robert W., 655 Maryland Ave.
Clark, Walden A., 1034 Jancey St.
Clarke, J. Julius, E. E. Trust Bldg.
Clarke, Robert C., Wallace Bldg.
Cochran, T. Preston, 2301 Salisbury St.
Cohn, Charles W., 104 S. First St., Duquesne.
Cohoe, Benson A., 705 N. Highland Ave.
Colcord, Amos W., Clairton.
Collins, J. Harry, 1024 Highland Bldg.
Colwell, Alexander H., 5476 Penn Ave.
Connelly, William J., 401 Fourth Ave., Carnegie.
Conti, Gaetano, 29 Chatham St.
Conti, Giacomo, 66 Washington Pl.
Conway, John M., 620 Warrington Ave.
Cook, Orlando L., 1228 Monterey St., N. S.
Cort, Austin L., Wilson.
Cossitt, Henry De La, 818 Ann St., Homestead.
Cotton, Robert W., 600 Chartiers Ave., McKees Rocks.
Cowan, Victor W., 823 Fifth Ave., McKeesport.
Craig, Ford B., Box 56, Pitcairn.
Craighead, Nancy B., 1111 Empire Bldg.
Cramer, George E., Sharpsburg.
Cratty, Alfred R., 813 Wylie Ave.
Cratty, LeRoy D., 914 South Ave., Wilkinsburg.
Crawford, Herbert P., Ridge Ave., Crafton.
Crawford, J. Slater, 17 Center Ave., Ingram.
Creaven, Mathew F., 823 Carson St.
Creighton, Lawrence C., Unity Station.
Cristler, John W., Midland (Beaver Co.).
Croll, Walter Lewis, 512 W. North Ave., N. S.
Crookston, William J., 5905 Penn Ave.
Crozier, Alfred W., 5000 Penn Ave.
Cruikshank, Omar T., 8148 Jenkins Arcade Bldg.
Cubbison, Carl J., 1304 Wood St., Wilkinsburg.
Cunningham, Daken W., Fairchance (Fayette Co.).
Cunningham, George S., 414 N. Highland Ave.
Cunningham, Wm. N., First Natl. Bank Bldg., Wilkinsburg.
Curll, Clyde L., 3441 Beechwood Blvd.
Curry, Glendon E., Westinghouse Bldg.
Cutts, Wen Galaway. 2834 Wylie Ave.
Daggette, Alvin S., 400 S. Craig St.
Davis, Adam C., Creighton.
Davis, David Moore, Broughton.
Davis, Fannie, 911 Arch St., N. S.
Davis, Isaac, 1892 Center Ave.
Davis, James A., 4704 Penn Ave.
Davis, James R., 1000 Chartiers Ave., McKees Rocks.
Davis, Nelson P., 1405 Fifth Ave.
Davison, Robert E., 6076 Jenkins Arcade Bldg.
Dawson, Stephen A., 5119 Jenkins Arcade Bldg.
Day, Ewing W., Westinghouse Bldg.
Dean, Howard E., 834 Braddock Ave., Braddock.
Dearth, Walter A., 7008 Jenkins Arcade Bldg.
Decker, Harry R., 1907 Highland Bldg.
Deemar, William Rogers, Tarentum.
DeMuth, Jesse S., 619 Linden Ave.
Denny, Clark B., Oakdale.
Denslow, Walter B., 3652 California Ave., N. S.
Dickinson, Breese M., Union Arcade Bldg.
Dickinson, James J., 1132 Portland St.
Dickson, Joseph Z., Renshaw Bldg.
Dickson, Robert W., Edgworth Lane, Sewickley.
Diller, Theodore, Westinghouse Bldg.
Dillinger, G. Arthur, Empire Bldg.
Diltz, Harry C., 714 Wood St., Wilkinsburg.
Disque, Thomas L., Jenkins Bldg.
Dixon, John W., 820 Wood St., Wilkinsburg.
Dodds, Wallace T., Penn and Highland Aves.
Donaldson, Holland H., 3600 Fifth Ave.
Donaldson, John S., 600 Lincoln Ave., Bellevue.
Donaldson, Walter F., Jenkins Arcade Bldg.
Dornbush, Bertha E., 228 Amber St.
Douthett, Joseph M., Center Ave. and Graham St.
Dranga, Amelia A., 706 Lyceum Bldg.
Duff, A. William, Keenan Bldg.
Duffy, Charles A., Forbes Bldg.
Duggan, John P., 44 Vandergrift Bldg.
Duncan, Ira C., East McKeesport.
Duncan, Joseph L., Jenkins Bldg.
D'zmura, Andrew P., 809 Westinghouse Bldg.
Eakins, Olin Martin, Farmers Bank Bldg.
Eaton, Percival J., 715 N. Highland Ave.
Eber, Samuel I., Jenkins Arcade Bldg.
Ecker, Charles S., Oakmont.
Edgar, Joseph C., 609 Allegheny Ave., Oakmont.
Edwards, James F., Bureau of Health.
Edwards, Ogden M., Jr., 5607 Fifth Ave.
Eggers, August H., 5815 Rural Ave.
Eicher, Chas. G., 604 Chartiers Ave., McKees Rocks.
Eisaman, Ottice N., 7137 Idlewild St.
Ellenberger, Jacob W. E., 813 Wood St., Wilkinsburg.
Ellenberger, R. J., 130 Ridenour Ave., Crafton.
Elliott, Andrew H., 625 California Ave., Avalon.
Elliott, George B. C., 409 North Ave., Millvale.
Elliott, H. T., 889 Fifth Ave., New Kensington (Westm. Co.).
Ellis, Charles J., 902 E. E. Trust Bldg.
Elpinstone, J. Wade, 3544 California Ave.
Elterich, Theodore J., 724 Highland Bldg.
Ely, George W., 7105 Frankstown Ave.
Emmerling, Karl A., 476 S. Rebecca St.
Engle, Guy D., 745 Trenton Ave., Wilkinsburg.
Entwisle, Robert Morgan, 4625 Liberty Ave., East Liberty Sta.
Erhard, Ernest L., Glassport.
Ertzman, Richard L., 538 Greenfield Ave.
Evans, David R., 2006 Carson St.
Evans, Edward E., 2700 Fifth Ave., McKeesport.
Evans, Thomas, Jr., Highland Bldg.
Everhart, James K., 5504 Harriet St.
Ewing, William H., 590 Herron Ave.
Eyman, William G., 976 Greenfield Ave.
Farquahar, Howard L., 136 Brownsville Rd.
Fausold, Lucian C., Glenshaw.
Fawcett, Charles E., 1535 Hillsdale Ave., N. S.
Feldstein, George J., 1122 Mellon St.
Felker, Wilbert, Western Pen., Bellefonte (Center Co.).
Feltwell, Myrtle R., 553 Centennial Ave., Sewickley.
Fenollosa, Sydney K., 4715 Fifth Ave.
Ferguson, Agnes B., 325 Highland Bldg.
Ferner, Joseph J., 5541 Ellsworth Ave.
Ferrari, Pasquale, 807 Wylie Ave.
Fetterman, James M., 919 Fulton St.
Fife, S. John S., Bridgeville.

Fink, Harry M., Bessemer Bldg.
Findley, Wm. McCrae, 1101 Franklin St., Wilkinsburg.
Finkelpearl, Abraham, 1906 Fifth Ave.
Finkelpearl, Henry, 1906 Fifth Ave.
Fischer, Henry F., Springdale.
Fischer, N. Arthur, 202 Forbes Bldg.
Fisher, Harrison Horton, Empire Bldg.
Fisher, Joseph W., 3517 East St., N. S.
Fiske, Eben W., 325 Murtland Ave.
Flood, Henry C., 918 S. Negley Ave.
Fogleman, Adam P., Munhall.
Forster, William A., 921 Chartiers Ave., W. E.
Foster, Curtis S., 308 Diamond Bank Bldg.
Foster, Eli N., 115 Climax St., Mt. Oliver Sta.
Foster, James LeRoy, Freeport Rd., Hoboken.
Foster, William S., 252 Shady Ave.
Fouse, Orlando, Graig and Center Ave.
Frank, Austin C., 138 Brownsville Rd., Mt. Oliver.
Franklin, Paul H., 417 Jenkins Bldg.
Frederick, Frank H., Chateau and Penna Ave., N. S.
Frederick, William, Lorenz Ave.
Fredette, John W., 1315 Singer Pl., Wilkinsburg.
Freed, Raymond S., 2010 Fifth Ave.
Frodey, Raymond J., Jenkins Bldg.
Frost, Ellis M., 311 Neville St.
Frye, Daniel W., Jenkins Arcade Bldg.
Fulton, Louis C., 7200 Butler St.
Funk, J. W., 1 Roose Bldg., East Pittsburgh.
Gardner, Christopher C., 605 Fifth St., Braddock
Gardner, E. Roy, 608 Empire Bldg.
Gardner, Harold B., Highland Bldg.
Gaub, Otto C., Keenan Bldg.
George, Shaul, 308 S. Highland Ave.
Giles, Henry J., E. E. Trust Bldg.
Gillis, G. H., 3725 Brighton Rd., N. S.
Gilmore, James L., 5604 Penn Ave.
Glass, Samuel J., Jr., 3447 California Ave.
Glynn, William H., 273 N. Craig St.
Godlewski, Stanislaus A., 1907 Carson St.
Goehring, Walter G., 7616 Bennett St.
Goehring, William N., 568 Homewood Ave.
Gold, Joseph B., Jenkins Arcade Bldg.
Goldberg, Samuel, 817 Fifth Ave., McKeesport.
Golden, John F., W. Liberty Ave., Dormont.
Golden, John P., Georgetown (Beaver Co.).
Goldsmith, Luba Robin, 5802 Beacon St.
Goldsmith, Maurice F., Jenkins Arcade Bldg.
Goldsmith, Milton, Jenkins Arcade Bldg.
Goodpaster, William H., Point View Rd., Carrick.
Goodsell, John W., New Kensington (Westm. Co.).
Goodstone, Morris A., 929 Fifth Ave.
Goodwin, Ralph D., 104 Electric Ave., E. Pittsburgh.
Gorfinkell, Julius, 5548 Avondale Place.
Gould, Margaret A., 606 Sherman Ave., N. S.
Graham, Norman R., 1304 N. Canal St., Sharpsburg.
Graham, Walter G., 7423 Race St.
Graver, Edward, 5537 Fifth Ave.
Gray, Earl P., 510 Hay St., Wilkinsburg.
Grayson, Thomas Wray, Westinghouse Bldg.
Greenberger, Bessie, 2016 Center Ave.
Greig, Thomas G., 1501 Carson St.
Grekin, Jacob, 1538 Center Ave.
Grier, George W., Jenkins Arcade Bldg.
Griffith, John P., 4715 Fifth Ave.
Grogin, Paul B., 2031 Center Ave.
Gross, Arthur H., 688 Forest Ave., Bellevue.
Gross, Julius Edward, 508 Jenkins Bldg.
Groth, Herman, 1523 Brighton Rd., N. S.
Grove, Robert E., 1600 Maplewood Ave., Wilkinsburg.
Guerinot, Albert J., 7090 Jenkins Arcade Bldg.
Guffey, Albert A., 310 Shaw Ave., McKeesport.
Gurin, A. A., Pittsburgh Life Bldg.
Guy, William H., 500 Pittsburgh Life Bldg.
Haben, John F., 218 Sixth Ave., McKeesport.
Hagemann, John A., Highland Bldg.
Hager, Christian, 917 Braddock Ave., Braddock.
Haines, Arthur S., 22 Bank Bldg., Wilkinsburg.
Halferty, Homer E., 503 Rosedale St.
Hall, Henry M., Jr., Grindstone (Fayette Co.).
Hall, John P., 6554 Frankstown Ave.
Hall, William T., Saxonburg (Butler Co.).
Halpert, Louis H., 16 N. Duquesne Ave., Duquesne.
Halstead, France W., Bakerstown.
Halverstadt, Charles H., Perrysville Ave.
Hamer, Edward E., 1512 Pennsylvania Ave.
Hamilton, James M., Oakmont.
Hamma, James A., 408 Chartiers Ave., Carnegie.
Hamilton, James M., W. Railroad Ave., Oakmont.
Hampsey, Alexander R., Empire Bldg.
Handmacher, Benjamin B., 3617 Butler St.
Hankey, Stacy M., 7147 Jenkins Arcade Bldg.
Harris, George Randolph, Jr., 341 Oakland Ave.
Harris, Ira C., 637 Corey Ave., Braddock.
Harrison, Ralph Hamilton, 309 Denniston Ave.
Hartley, Harold H., Green Spring Ave.
Hartman, Clifford C., 335 Semple St.
Hartman, John C., Jr., 1716 Brighton Ave., N. Braddock.
Hartung, Frederick A., Keenan Bldg.
Harvey, Walter B., 1000 Ridge Ave.
Hawkins, John A., 643 Summerlea St.
Haworth, Elwood B., 145 N. Craig St.
Hayden, Walter G., 6655 Ridgeville St.
Hayes, Charles H., 125 Hazelwood Ave.
Hays, George L., 816 Empire Bldg.
Haythorn, Samuel R., 353 Stratford Ave.
Hazlett, T. Lyle, 115 Stratford Ave.
Heard, James D., Diamond Bank Bldg.
Heath, Robert M., Fairhaven.
Heck, Fred H., 1379 Lincoln Ave.
Heckel, Edward B., Jenkins Bldg.
Heckelman, H. H., Hotel Brighton, Atlantic City, N. J.
Hector, Louis H., 706 First St., N. S.
Hegarty, John P., 819 Wylie Ave.
Heilman, Martin W., 1131 Park Ave., Tarentum.
Heisey, William C., 2123 Versailles Ave., McKeesport.
Henderson, Walter Lowry, East McKeesport.
Henney, Bernard J., 213 Fourth Ave., Carnegie.
Henney, Patrick, 800 Island Ave., McKees Rocks.
Henninger, Charles H., Jenkins Arcade Bldg.
Herman, Charles E., Carothers Ave. and 27 Hill St., Glendale, Carnegie.
Hersman, Christopher C., 2228 Carson St., S. S.
Herzstein, Harry J., 1229 Wylie Ave.
Hesser, Andrew J., 4918 Liberty Ave.
Hetzel, William B., Westinghouse Bldg.
Hibbs, Robert C., Jenkins Arcade Bldg.
Hicks, Abram V., 5408 Penn Ave.
Hieber, H. Chester, Jenkins Bldg.
Hierholzer, John C., Jenkins Bldg.
Hiett, George W., 4025 Perrysville Ave., N. S.
Hill, Charles A., 5635 Callowhill St.
Hill, Ralph L., Carnegie.
Hinchman, Robert S., 127 Fifth Ave., McKeesport.
Hocking, William C., 41 N. First St., Duquesne.
Hodgson, William E., Box 382, Glassport.
Hodkinson, W. A., Santa Monica, Calif.
Hoffmann, Joseph H., Pennala Farms, R. D. 2, Gadsden, Ala.
Hoffmann, Norbert L., 120 Cohasset St.
Hogsett, Smith F., Jenkins Arcade Bldg.
Hollander, Lester, 1401 N. St. Clair St.
Holliday, George A., 8047 Jenkins Arcade Bldg.
Holtz, Wilbur M., 150 Castle Shannon Road.
Hood, Robert T., 308 Diamond Bank Bldg.
Hopkins, Alfred J., 403 E. E. Trust Bldg.
Hopkins, Herbert J., 403 E. E. Trust Bldg.
Hopper, Arthur W., Bridgeville.
Huffman, David C., 309 Olive St., McKeesport.
Hufford, James F., Elrama (Washington Co.).
Huggins, Raleigh R., 1018 Westinghouse Bldg.

Hughes, Reese W., Jenkins Arcade Bldg.
Hughes, Willet P., 706 Highland Bldg.
Hunter, Andrew, 708 Walnut St., McKeesport.
Hutchinson, Henry A., Dixmont.
Huth, John A., Natrona.
Iams, Jay Donald, 2863 Chartiers Ave., Sheridan.
Iland, Edward M., Coraopolis.
Ingram, Clarence H., 2223 Shady Ave.
Jackson, Daniel F., Jenkins Arcade Bldg.
Jackson, Joseph M., 8080 Jenkins Arcade Bldg.
Jahn, August H., 3535 Butler St.
Jamison, Daniel I., 729 Lockhart St., N. S.
Jennings, Charles W., 6627 Ridgeville Ave.
Jennings, Samuel D., Sewickley.
Jenny, Thomas G., Penn and Negley Aves.
Jew, Henry D., 2306 Arlington Ave.
Johnson, Samuel H., 4025 Butler St.
Johnston, George C., Jenkins Arcade Bldg.
Johnston, James I., 201 S. Craig St.
Johnston, James R., 276 N. Craig St.
Johnston, Robert C., Springdale.
Jones, Clement R., 816 Empire Bldg.
Jones, E. L., Homestead.
Jones, Herbert Leroy, 4819 Second Ave.
Jones, William A., 181 Baldwin St., Hays.
Jones, Wesley W., 822 Wood St., Wilkinsburg.
Jones, William W., 940 Western Ave., N. S.
Jordan, Stewart S., 1902 Jenny Lind St., McKeesport.
Kalet, Harry J., 1349 Fifth Ave.
Kamens, Alfred F., 826 Mellon St.
Katzenstein, M. Boyd, 1202 Highland Bldg.
Kaufman, Albert S., New Kensington (Westm. Co.).
Keebler, Charles Barton, 604 Chartiers Ave., McKees Rocks.
Keller, Nile P., 630 Union Arcade Bldg.
Kellogg, Frederic S., 5510 Ellsworth Ave.
Kelly, J. Clarence, Reuben Bldg., McKeesport.
Kelso, John S., 740 California Ave., Avalon.
Kennedy, David D., 5500 Dunmoyle Pl.
Kenworthy, Frank, 203 Roup St.
Kern, Frank M., Broughton.
Kerr, J. Purd, 1908 Carson St.
Kerr, John C., Castle Shannon.
Kerr, Thomas R., Oakmont.
Keyser, Charles F., 15 N. Duquesne Ave., Duquesne.
Kifer, Logan M., 537 Ringgold St., McKeesport.
King, Charles F., 429 Fourth St., McKeesport.
King, Isaac K., 226 Brownsville Rd.
King, Richard A., 2517 Perrysville Ave., N. S.
King, S. Victor, 918 Westinghouse Bldg.
Kirch, John P., E. E. Trust Bldg.
Kirk, Donald I., Infirmary No. 3, Camp Pike, Ark.
Kirk, Thomas T., 4908 Liberty Ave.
Kirk, William H., Keenan Bldg.
Klinzing, Henry, Empire Bldg.
Klotz, Oskar, 4720 Wallingford St.
Kneedler, G. Clyde, Jenkins Bldg.
Knorr, Lawrence R., Paradise Valley, Nev.
Knowlton, James M., 905 Mahoning Ave., Youngstown, Ohio.
Koch, Scott L., Jenkins Arcade Bldg.
Kocher, Quintin S., Cecil (Wash. Co.).
Koenig, Adolph, 1111 Westinghouse Bldg.
Kohberger, Henry P., 118 S. Negley Ave.
Kolski, John J., Mt. Pleasant (Westm. Co.).
Konantz, Orion F., Mountain View Inn, Hollywood Sta., Los Angeles, Calif.
Koontz, David M., New Kensington (Westm. Co.),
Korhnak, August J., 1026 Talbot Ave., Braddock.
Kraft, Alfred H., 47 S. Eleventh St.
Kramer, William E., 1018 W. Sheffield St., N. S.
Krebs, Adolph, Jenkins Arcade Bldg.
Krepps, Allen L., 401 Bessemer Bldg.
Krieger, Geo. L., New Kensington (Westm. Co.).
Kunkel, Howard W., 3701 Forbes St.
Kvatsak, Julius Joseph, 3603 California Ave., N. S.
Lace, Walter J., Vandergrift (Westm. Co.).
Lacock, Lester E., 2501 Perrysville Ave.
Lake, Harry S., Willock.
Lamb, Wah Jean C., Homestead.
Lambert, Samuel Earle, 5431 Fifth Ave.
Lamon, Goldson T., New Kensington (Westm. Co.).
Landon, Lyndon H., Carnegie Bldg.
Lange, J. Chris., 158 Bellefield Ave.
Lange, William J., 6206 Penn Ave.
Langfitt, William S., Jenkins Arcade Bldg.
Langham, William H., 811 West St., Homestead.
Larimore, Fred Campbell, 500 W. North Ave., N. S.
Lasday, Louis, 5128 Second Ave.
Lauer, Cyril F., 244 Forty-Sixth St.
Lauffer, Chas A., 521 Franklin Ave., Wilkinsburg.
Laughlin, John P., 131 N. Highland Ave.
Laurent, F. Victor, Jenkins Arcade Bldg.
Lawson, William E., Jenkins Arcade Bldg.
Lear, I. N., 149 Hamilton Ave., Vandergrift (Westm. Co.).
Leffler, William H., 217 Eleventh Ave., McKeesport.
Lehner, William H., 1904 Carson St.
Leibold, George, 1208 Iten St., N. S.
Lerch, Donald G., 3616 California Ave.
Levy, Allen N., 1403 Wylie Ave.
Lewin, Abraham, 1807 Carson St.
Lewin, Adolph L., 3703 Penn Ave.
Lewis, Edward C., Verona.
Leydic, Cyrus C., Natrona.
Lichtenfels, Frederick V., Forbes St.
Lichty, John A., Fifth Ave. and Neville St.
Lindeman, Charles E., 7047 Hamilton Ave.
Lindsay, Charles S., 3401 McClure Ave., N. S.
Lindsay, James A., Jenkins Bldg.
Linn, J. George, 820 Highland Bldg.
Lippincott, J. Aubrey, Jenkins Bldg.
Litchfield, Lawrence, Jenkins Arcade Bldg.
Logan, Edward P., 1111 Arch St.
Long, Herbert M., 4100 Main St.
Long, James McMaster, 5532 Baywood St.
Love, James H., 622 Front St., Verona.
Lowrie, Robert N., 412 Corey Ave., Braddock.
Lowrie, Walter Jas., 714 Braddock Ave., Braddock.
Ludwig, David B., 1119-21 Highland Bldg.
Luke, Frank E., Highland Bldg.
Lurting, Clarence W., 1707 Broughton Rd., N. S.
Luther, John M., Jenkins Arcade Bldg.
Lutz, Carl L., 633 California Ave., Avalon.
Lyon, Alvin K., 413 North Ave., Millvale.
McAboy, C. Bradford, 7136 Hamilton Ave.
McAdams, Edward C., 503 Brushton Ave.
McAdams, Robert J., 4900 Liberty Ave.
McBride, John L., 172 Center Ave., Emsworth.
McCague, Edward J., Keenan Bldg.
McCarrell, James R., 1115 Bidwell St.
McCausland, Wm. S., 10 Grant Ave., Duquesne.
McClure, James D., 436 Rebecca Ave., Wilkinsburg.
McClymonds, Horace S., 502 Hay St., Wilkinsburg.
McComb, Samuel F., Tarentum.
McCombs, Willison H., 26 S. Fourteenth St.
McConeghy, Robert K., 4200 Butler St.
McConnell, Thos. E., New Kensington (Westm. Co.).
McConnell, William John, 927 Western Ave., N. S.
McCorkle, Wm. P., 659 Sherwood St., Sheridan.
McCormick, Bernard J., 608 Empire Bldg.
McCormick, Earl V., Grant St., Munhall.
McCormick, John C., 50 Shiloh St.
McCracken, William, 209 S. St. Clair St.
McCready, E. Bosworth, Keenan Bldg.
McCready, Frank L., Sewickley.
McCready, J. Homer, 816 Empire Bldg.
McCready, James M., Sewickley.
McCready, Joseph A., 506 N. Highland Ave.
McCready, Robert J., 909 Keenan Bldg.
McCreery, Albert H., 8133 Jenkins Arcade Bldg.
McCulloch, William P., Cheswick.
McCullough, John F., 7243 Idlewild St.
McCune, Caleb, 802 Fifth Ave., McKeesport.
McCune, David P., 430 Shaw Ave., McKeesport.

McCune, Samuel G., Buena Vista.
McCurdy, Stewart L., 8103 Jenkins Arcade Bldg.
McFarland, Wm. W., 1202 E. E. Trust Bldg.
McGarvey, Samuel C., Bridgeville.
McGeary, William J., R. D. 2, Allison Park.
McGinley, Joseph Leo, Highland Bldg.
McGregor, William J., Wood St. and Ross Ave., Wilkinsburg.
McGuire, Hugh E., Pittsburgh Life Bldg.
McKee, Carlisle E., Park Bldg.
McKee, George J., Westinghouse Bldg.
McKelvy, James P., 519 N. Highland Ave.
McKenna, William B., 5769 Baum Blvd.
McKennan, Moore S., 3612 Dawson St.
McKennan, Thomas M. T., Jenkins Arcade Bldg.
McKibben, Alpheus, 127 N. Highland Ave.
McKibben, Samuel H., 1103 E. E. Trust Bldg.
McKinniss, Clyde R., Bridgeville, R. D. 3.
McKinnon, Charles L., McKees Rocks.
McKinstry, Guy H., Aspinwall.
McLallen, James I., 801 Wood St., Wilkinsburg.
McLenahan, Thomas M., Greenfield Ave.
McMaster, Gilbert C., 1903 Baltimore Ave.
McMeans, Joseph W., 5020 Liberty Ave.
McMurray, Thomas E., 553 Trenton Ave., Wilkinsburg.
McNall, James M., 718 Wood St., Wilkinsburg.
McNaugher, Samuel N., 2341 Perrysville Ave.
McNeely, John F., Munhall.
McNeil, George W., 231 Frankstown Ave.
McQuaid, Joseph R., Leetsdale.
Macdonald, Clarence P., 125 Beltzhoover Ave.
Macfarlane, James W., 1108 Westinghouse Bldg.
MacLachlan, Archibald A., 1111 Empire Bldg.
Maclachan, W. W. G., 1133 Weightman St.
Mackrell, John S., 5301 Liberty Ave.
Madden, Francis J., 104 Hamilton Ave.
Magee, J. Elmer, Carnegie.
Magoffin, Montrose B., 4630 Fifth Ave.
Mahan, J. Clay, Keenan Bldg.
Maits, Charles B., 117 S. Atlantic Ave.
Major, Richard S., 914 W. North Ave., N. S.
Mallison, Elizabeth C., 512 Sixth Ave., McKeesport.
Manley, Thomas H., Tarentum.
Marcus, Samuel J., 1641 Fifth Ave.
Marick, Simon W., 1539 Center Ave.
Markel, James Clyde, Westinghouse Bldg.
Marks, Orrie Lester, 542 Brookline Blvd.
Marks, Philip E., 580 East End Ave.
Marshall, Calvin C., 427 Charles St., Knoxville.
Marshall, Caroline S., 7045 Hamilton Ave.
Marshall, Watson, Diamond Bank Bldg.
Marshall, William N., Aspinwall.
Martin, David B. W., Perrysville Ave. and Bonvue, N. S.
Martin, George E., Duquesne.
Martin, John L., 5847 Center Ave.
Martin, W. Walton, Main St. and Penn Ave.
Mase, Jesse Z., 5620 Forbes St.
Mateer, H. O., 2015 Carson St.
Matheny, A. Ralston, 7032 Hamilton Ave.
Mathewson, Franklin W., Oakdale.
Mattox, Edgar E., 2102 Fifth Ave.
Mayer, Edward E., Jenkins Arcade Bldg.
Mayer, William H., 714 Jenkins Bldg.
Meanor, Harold Henderson, Coraopolis.
Mechling, Curtis Campbell, Jenkins Arcade Bldg.
Mercur, Wm. H., 5244 Fifth Ave.
Meredith, Evan William, Highland Bldg.
Metzgar, Daniel A., 600 Braddock Ave., Braddock.
Metzger, George, 1007 Chestnut St., N. S.
Miller, Franklin B., Fulton Bldg.
Miller, Harold A., Pittsburgh Life Bldg.
Miller, J. M., Hickory, R. D. 4 (Washington Co.).
Miller, Laird O., 104 North Ave., E.
Miller, Robert T., Jr., Sandusky St. and Park Way.
Miller, Thomas A., Bayne and Roger Sts., Bellevue.
Miller, William T., 314 Sixth St., McKeesport.
Milligan, John D., 345 Fourth Ave.
Milligan, Robert, Westinghouse Bldg.
Milligan, Samuel C., Jenkins Bldg.
Mills, S. Roy, 834 Braddock Ave., Braddock.
Mills, Wm. W., 2d and Kennedy Sts., Duquesne.
Minnich, William C., 756 Chartiers Ave., McKees Rocks.
Mitchell, Atlee D., 4125 Main St.
Mitchell, Lou M., Jenkins Bldg.
Mitchell, Lewis T., Aspinwall.
Montgomery, Ellis S., 725 Jenkins Bldg.
Montgomery, W. Harry, Wall St., Pitcairn.
Moore, Charles C., Forbes and Atwood Sts.
Moore, Thomas F., Highland Bldg.
Morgan, Joseph S., Stratford Ave., Crafton Heights.
Morris, Alanson F. B., 6901 Hamilton Ave.
Morrow, Frank L., 7th and Braddock Ave., Braddock.
Morrow, H. Wilson, Swissvale.
Morton, Charles W., 270 Tennyson Ave.
Moyer, Irwin J., 3525 Forbes St.
Moyer, Ray P., E. E. Trust Bldg.
Moyer, Sue S., 120 Electric Ave.
Mullin, C. Elmer, Cambridge Springs (Craw. Co.).
Munden, John J., 1003 Penn Ave.
Munster, James A., 1603 Carson St.
Murdoch, J. Floyd, Bessemer Bldg.
Murphy, Arthur Irwin, Westinghouse Bldg.
Murphy, Harry L., 2946 Hutton St.
Murray, Robert J., 42 Broad St., Sewickley.
Narr, Frederick, Passavant Hosp.
Nason, F. Thoburn, Ruben Bldg., McKeesport.
Naylor, Mary A., 5452 Penn Ave.
Nealon, William A., 1021 Highland Bldg.
Neely, Elmer E., 1302 Pennsylvania Ave., N. S.
Neff, Edward L., 920 Park Bldg.
Nelan, Thomas G., 507 Lowell St.
Nelson, Christian, 1231 Woodland Ave., N. S.
Nettleton, DeWitt B., Sewickley.
Nevins, Harry, 5204 Butler St.
New, Grant J. A., 917 Carson St.
Newcomb, Cyrenius J., Bellefonte, R. D. 3 (Center Co.).
Newell, Joseph R., Hays.
Nicholls, J. Calvin, 502 Braddock Ave., Braddock.
Noah, Harry Gardner, 901 Diamond Bank Bldg.
Norris, Scott A., Homestead.
Nowry, Samuel E., 405 Annie St., Wilmerding.
O'Brien, Michael E., 2808 Sarah St.
O'Brien, William D., 76 Hazelwood Ave.
Ohail, Joseph C., 412 W. North Ave., N. S.
O'Hara, Warren T., New Kensington (Westm. Co.).
Ohlman, Isaac L., 8122 Jenkins Arcade Bldg.
Opipari, Achilli U., 31 Chatham St.
Orbin, Walter B., 2805 W. Liberty Ave.
Ord, Edward Y., 1701 Huey St., McKeesport.
Orr, Charles A., Crafton.
Orris, Charles S., Brackenridge.
Osterloh, Chas T., 300 E. North Ave., N. S.
Owens, Charles K., Jenkins Arcade Bldg.
Owens, John R., 3337 Dawson St.
Oyer, Harry W., Jenkins Bldg.
Palmer, Chauncey L., Diamond Bank Bldg.
Patterson, Ellen James, Westinghouse Bldg.
Patterson, Fred L., Imperial.
Patterson, Harry B., Highland Bldg.
Patterson, J. M., Imperial.
Pearson, Eugene O., 502 Semple St.
Perkins, David M., 516 Federal St., N. S.
Pershing, Frank S., 768 Penn Ave., Wilkinsburg.
Pettit, Albert, Keenan Bldg.
Phillips, John S., 614 Chestnut St., N. S.
Phillips, Nathan F., 410 Washington Rd.
Phillips, R. J., 67 Amanda Ave.
Phillips, Samuel R., 240 Charles St.
Pierce, Amos M., West Elizabeth.
Pierce, Glen McK., 3408 Versailles Ave., McKeesport.
Piper, Elmer N., New Kensington (Westm. Co.).
Plumer, John S., Center and Plumer Sts., Emsworth.

Pochapin, Irwin M., 2846 Carson St.
Polk, Oscar I., 874 Braddock Ave., Braddock.
Pool, Stewart N., 7000 Penn Ave.
Poole, Richard E., Puente, Calif.
Porter, John, 1000 Park Ave., McKeesport.
Potts, James A., 15 Shiloh St.
Price, Albert D., 127 Hazelwood Ave.
Price, Henry T., 1011 Westinghouse Bldg.
Proescher, Frederick, 6356 Morrowfield Ave.
Purman, John, 100 W. Eighth St., Homestead.
Pyle, William T., 7479 McClure Ave., Swissvale.
Radin, Samuel P., 646 Fifth Ave.
Rafferty, Donald G., First Natl. Bank Bldg.
Rall, George W., 6101 Penn Ave.
Ralston, B. Stewart, Neville St. and Center Ave.
Ramsey, Harvey Edwin, 3715 California Ave., N. S.
Ramsey, William S., 7034 Jenkins Arcade Bldg.
Rankin, Charles A., McKeesport.
Ratner, Simon H., 1321 Fifth Ave.
Rauch, Harvey M., 738 Warrington Ave.
Ray, William B., 212 Jenkins Bldg.
Read, John, 641 Walnut St., McKeesport.
Rectenwald, Daniel L., 747 Warrington Ave.
Rectenwald, John J., 132 Brownsville Rd.
Rectenwald, Lawrence E., 1820 Ley St., N. S.
Redmond, Maurice S., E. E. Trust Bldg.
Reed, I. Bebout, 11 Emily St., Crafton.
Reed, John C., 39 N. Duquesne Ave., Duquesne.
Reed, Joseph M., Diamond Bank Bldg.
Reif, Charles E., 616 Chestnut St., Allegheny.
Reiter, David, 613 Eighth Ave., Homestead.
Resmer, Norbert J., 315 Brownsville Rd.
Ressa, Daniel A., 3701 California Ave.
Rhodes, Frederick A., 5119 Jenkins Arcade Bldg.
Ribetti, G. Thomas, 933 Bedford Ave.
Richey, DeWayne G., 2008 Jenny Lind St., McKeesport.
Ricketts, John G., 199 Steuben St., W. E.
Riethmuller, Albert Herman, 425 Grant St., Millvale.
Riggs, Elliott S., 38 Prospect Ave., Washington (Washington Co.).
Rimer, Frank H., Municipal Hospital.
Rinard, Charles C., Homestead.
Rinehardt, Stanley M., Jenkins Arcade Bldg.
Ritchey, Elmer C., 214 Charles St.
Ritchey, John B., 1264 N. Catalina Ave., Pasadena, Calif.
Rittenhouse, Harry H., Federal.
Robinson, James W., 3600 Fifth Ave.
Robinson, Ralph V., Mellon and Jackson Sts.
Robinson, Wilton H., 6206 Penn Ave.
Rock, Norbet F., 2348 California Ave., N. S.
Rodgers, William H., 1421 Lincoln Ave.
Roose, Arthur E., 711 Linden Ave., East Pittsburgh.
Rosenberg, Nicholas L., 5836 Beacon St.
Rosenbloom, Jacob, Jenkins Arcade Bldg.
Ross, William F., First Natl. Bank Bldg., Eastern Ave., Aspinwall.
Rossiter, F. S., 7339 McClure Ave., Swissvale.
Rowan, Charles, 265 Main St.
Rowland, Ivo E., Elizabeth.
Ruben, Jacob A., Jenkins Arcade Bldg.
Rubenstein, Louis G., Braddock.
Rudolph, Franklin W., 516 Federal St., N. S.
Rugh, John B., 430 Second St., Pitcairn.
Sable, Daniel E., 354 N. Craig St.
Shadowski, Leon, 2625 Penn Ave.
Sahm, Wm. K. T., Room 124, Union Station.
Sakarraphos, Stelios N., 1007 Wylie Ave.
Sandblad, Andrew G., 728 S. Union Ave., McKeesport.
Sandels, Christopher C., Westinghouse Bldg.
Sands, Robert M., 4300 Butler St.
Sanes, K. Isadore, Jenkins Bldg.
Sankey, Thomas M., 701 Trenton Ave., Wilkinsburg.
Schaefer, Chas. N., Jenkins Arcade Bldg.
Schatzman, Edward P., 710 Foreland St., N. S.
Scheffer, Carl J., 409 East North Ave., N. S.
Schildecker, Charles B., Park Bldg.
Schill, Joseph J., 3709 Butler St.
Schlegel, Alvin A., 1118 North Negley Ave.
Schleiter, Howard G., Highland Bldg.
Schlotbom, Max G., 2708 Penn Ave.
Schmid, Albert T., 612 Penn Ave., Turtle Creek.
Schmid, Henry, Jenkins Bldg.
Schofield, Charles, Bakerstown.
Schonfield, Moses, 1704 Carson St.
Schoyer, Geo. Shries, Highland Bldg.
Schrack, Frank M., 2417 Carson St.
Schwartz, Lorraine L., 637 Union Arcade Bldg.
Scott, Karl M., 1625 Shady Ave.
Scott, Zaccheus R., Louisa and Semple Sts.
Seedenberg, J. P., 12 Roselawn Terrace.
Seegman, Simon, 8113 Jenkins Arcade Bldg.
Seipel, John H., 3525 Forbes St.
Seitz, George C., 2036 Noble St., Swissvale.
Seville, David Walter, 3 Sprague Ave., Bellevue.
Shaffer, David H., 203 Masonic Bldg., McKeesport.
Shaffer, Phineas J., 79 S. Thirteenth St.
Shaffer, P. T. Barnum, Elizabeth.
Shallcross, William G., Highland Bldg.
Shanor, Charles K., 333 Beaver St., Sewickley.
Shapira, Abraham, 4767 Liberty Ave.
Shepard, Jackson B., 6449 Frankstown Ave.
Shaw, Henry A., 2402 Carson St.
Sherman, William O., Carnegie Bldg.
Sherrill, Alvan W., 5506 Ellsworth Ave.
Shillito, Nicholas G. L., 215 South Fairmount Ave.
Shoemaker, George, Wood St., Wilkinsburg.
Shultz, C. E., Castle Shannon.
Sieber, Paul R., 935 Sheridan Ave.
Sigal, Harry M., 2139 Wylie Ave.
Sigman, Alfred S., 404 Bessemer Bldg.
Silsby, Frederick W., 1004 Garfield St., Tarentum.
Silver, David, The D'Arlington, Bayard & Neuville Sts.
Simon, David L., 403 Nixon Bldg.
Simonton, Thomas G., 5321 Fifth Ave.
Simpson, Frank F., Jenkins Arcade Bldg.
Simpson, John Reid, 667 Maryland Ave.
Simpson, Sumner C., 350 South Highland Ave.
Singley, J. DeV., 812 North Highland Ave.
Sloan, Edgar H., 7435 Church Ave., Ben Avon.
Slocum, Morris A., 401 South Linden Ave.
Smith, Charles H., Arnold (Westmoreland Co.).
Smith, H. MacVicker, Olean, N. Y.
Smith, Joseph B., 828 Braddock Ave., Braddock.
Smith, La Monier, 319 Park Bldg.
Smith, Lawrence D., Pitcairn,
Smith, Louis N., 1911 Braddock Ave., Swissvale.
Smith, Stanley S., 613 Jenkins Bldg.
Snedden, Alex. R., Boston.
Snitzer, Henry M., 1541 Center Ave.
Snowden, Roy Ross, 723 Ridge Ave., N. S.
Snowwhite, Thos. H., 633 Braddock Ave., Braddock.
Snyder, Marchand, 261 McCargo St., New Kensington (Westmoreland Co.).
Snyder, William J. K., Avalon.
Soffel, August, 123 Shiloh St.
Sohn, Charles, 4902 Liberty Ave.
Speer, Harvey B., 1100 State St., Coraopolis.
Spiro, Marcus, 101 Taggart St., N. S.
Stahlman, Thomas M., 1111 Westinghouse Bldg.
Stanton, Anna M., 3501 Fifth Ave.
Stanton, Charles C., Sharpsburg.
Stanton, James N., Jenkins Arcade Bldg.
Staufft, Orson T., 1438 Columbus Ave.
Steedle, Jos. G., 1037 Chartiers Ave., McKees Rocks.
Steele, Robert L., 606 Locust St., McKeesport.
Steffler, Samuel S., 5012 Penn Ave.
Steffy, John L., 111 Brookline Blvd.
Steim, Charles J., 502 S. Forty-first St., Philadelphia.
Steim, Jos. M., New Kensington (Westmoreland Co.).
Stein, Carl H., 340 Southern Ave.
Steinmetz, Olive B., Eighth and Ann Sts., Homestead.
Sterritt, William J., 381 College Ave., Beaver Falls (Beaver Co.).
Stevenson, Alex. M., Jenkins Arcade Bldg.

Stevenson, Ellerslie W., Standard Life Bldg.
Stevenson, James Wylie, 1111 N. Park St., McKeesport.
Stewart, Acheson, Union Arcade Bldg.
Stewart, J. Boyd D., Wilson.
Stewart, Wylie J., 1114 Fourth Ave., Coraopolis.
Stieren, Edward, Union Arcade Bldg., Fifth Ave. and Grant St.
Stillwagen, Charles A., Jenkins Bldg.
Stimson, George W., Jenkins Arcade Bldg.
Stone, William L., 5115 Jenkins Arcade Bldg.
Stoneman, Madison U., 101 Clarendon Ave., Crafton.
Storer, Frank M., 506 South Ave., Wilkinsburg.
Stotler, Fulton R., 611 Penn Ave., Wilkinsburg.
Stover, Miles E., 519 Allegheny Ave.
Straessley, Clarence M., 621 Pressley St.
Straessley, Francis X., 621 Pressley St.
Strickland, George W., 6305 Frankstown Ave.
Sturgis, William W., Glenshaw.
Sturm, Samuel A., 5118 Jenkins Arcade Bldg.
Stybr, Charles J., 865 Lockhart St.
Stybr, Joseph, Bessemer Bldg.
Sumney, Frank F., Maple Ave., Dravosburg.
Sunstein, Noah, 607 Shaw Ave., McKeesport.
Sutton, Edward Lincoln, Lincoln Ave., Bellevue.
Swanton, Robert V., 301 South Atlantic Ave.
Swope, Lorenzo W., Park Bldg.
Taylor, Edytha E., 11 Crafton Ave., Crafton.
Taylor, Martin C., 415 Warrington Ave.
Taylor, Robert L., 4726 Liberty Ave.
Taylor, William V. M., 629 Walnut St., McKeesport.
Terheyden, William A., 4810 Liberty Ave.
Thomas, Clarence M., 1136 Brownsville Road.
Thomas, Vernon D., Highland Bldg.
Thompson, Elmer J., 1300 Pennsylvania Ave.
Thompson, J. Calvin, 503 Union Ave., N. S.
Thompson, William H., 1203 Monterey St.
Thoms, Joseph F., 1515 Lowrie St., N. S.
Thorne, John M., 7036 Jenkins Arcade Bldg.
Titus, Paul, Highland Bldg.
Todd, Frank L., 130 Bellefield Ave.
Tomlinson, William, 606½ Penn Ave., Turtle Creek.
Torrens, Adelbert E., 507 Perrysville Ave., West View.
Trevaskis, Abraham L., 508 Penn Ave., Turtle Creek.
Truschel, Eugene J., 207 Liberty Bank Bldg., E. E.
Tufts, Stewart W., Highland Bldg.
Turfley, George G., 1349 Fifth Ave.
Turnbull, Thomas, Jr., 835 Western Ave., N. S.
Turner, Hunter H., 74 North Euclid Ave., Bellevue.
Ungerman, Frank G., 409 Locust St., McKeesport.
Updegraff, Harry C., 2200 Southern Ave., Carrick.
Utley, Frederick B., 1126 Highland Bldg.
Van Horne, Thomas C., 6510 Frankstown Ave.
VanKirk, Herbert S., 219 Sixth Ave., McKeesport.
VanKirk, Theophilus R., McKeesport.
VanKirk, Vite E., Westinghouse Bldg.
Vates, Charles W., Mt. Oliver Sta.
Vaux, Carey J., 526 Larimer Ave.
Vaux, David William, 4300 Butler St.
Vaux, George H., 2163 Center Ave.
Wade, Francis H., Hotel Westminster, Boston, Mass.
Wagener, Carl K., 5441 Walnut St.
Wagner, Albert A., 812 Cedar Ave., N. S.
Wakefield, John G., Wilkinsburg, R. D. 1.
Walker, William K., Westinghouse Bldg.
Wallace, George S., 6368 Amelia St.
Wallace, James O., 7008 Jenkins Arcade Bldg.
Wallace, William C., Ingram.
Waller, Midford M., 286 Southern Ave.
Wallis, Alfred W., 125 Hazelwood Ave.
Walls, E. Slifer, Highland Bldg.
Walter, Paul H., E. E. Trust Bldg.
Walters, DeForest E., 446 Atlantic Ave., McKeesport.
Walters, George W., 3222 Forbes St.
Walters, John, 316 Beaver St., Sewickley.
Walz, Frank J., Highland Bldg.
Watson, Charles M., 516 Federal St., N. S.
Watson, William S., Jenkins Bldg.
Weamer, John A., 411 Third Ave., Tarentum.
Wechsler, Benjamin B., 549 Neville St.
Wechsler, Lawrence, 1554 Center Ave.
Weil, Grover C., 4704 Fifth Ave.
Weill, Nathan J., Jenkins Arcade Bldg.
Weimer, Edgar S., 1220 Highland Bldg.
Weinberg, Max H., 2129 Center Ave.
Weiss, Edward A., Jenkins Bldg.
Weiss, Harry, Jenkins Arcade Bldg.
Weisser, Edward A., Empire Bldg.
Welch, John C., 679 Lincoln Ave., Bellevue.
Werder, Xavier O., Jenkins Bldg.
Wertheimer, Herbert G., 1218 Westinghouse Bldg.
Wesley, William H., 6101 Penn Ave.
Wessels, John L., 711 Sandusky St., N. S.
Westervelt, Henry C., 6101 Penn Ave.
Whitcraft, James H., 804 Wood St., Wilkinsburg.
White, Sidney G., 3623 Perrysville Ave.
Whitehead, Ira B., 1600 Baltimore Ave.
Wholey, Cornelius C., 4616 Bayard St.
Wiant, Meade, 7147 Frankstown Ave.
Wible, Elmer E., Diamond Bank Bldg.
Wiese, E. Robert, Jenkins Arcade Bldg.
Wiggins, Samuel L., 224 Sixth Ave., McKeesport.
Wignall, Horace L. W., 821 Wylie Ave.
Wiley, Joseph C., 606 Wylie Ave., McKeesport.
Willetts, Ernest W., Diamond Bank Bldg.
Willetts, Joseph E., 5150 Jenkins Arcade Bldg.
Williams, Isadore, 655 Preble Ave., N. S.
Williams, John A., 206 West Carson St.
Williams, Victor A., Liberty Bank Bldg.
Williamson, Joseph H., Bessemer Bldg.
Wilson, John M., 1111 Highland Bldg.
Wilson, John V., 1332 Juniata St., N. S.
Wilson, Leyden F., 1000 Fifth Ave., New Kensington (Westmoreland Co.).
Winter, William J., 1718 East St., N. S.
Winters, George R., 112 Cohasset St.
Wirtz, Charles Wilmer, 703 East North Ave.
Wishart, Charles A., Jenkins Arcade Bldg.
Witherspoon, Walter, Harmarville.
Woelfel, Herbert E., 340 Lincoln Ave., Bellevue.
Wohlwend, Frederick, Tarentum.
Wolf, Jacob, Jenkins Bldg.
Wolfe, Charles H., McDevitt Pl. and Forbes St.
Wolff, Raymond A., 1000 Fifth Ave., New Kensington (Westmoreland Co.).
Wood, Benjamin B., 2118 Fifth Ave.
Woodburn, Wilton A., 7644 Frankstown Ave.
Woods, Edward B., 715 North Highland Ave.
Woods, William H., Tarentum.
Woodward, Wm. M., 607 Fifth Ave., McKeesport.
Worrell, John W., 110 South Fairmount Ave.
Wright, George J., 5018 Friendship Ave.
Wuerthele, Herman W., 161 Greenfield Ave.
Wycoff, George R., 718 Broadway, McKees Rocks.
Wycoff, William A., 7211 Frankstown Ave.
Yorty, Valentine J., 7300 Monticello St.
Zabarenko, Samuel, 2322 Carson St.
Zeedick, Peter I., 340 Atwood St.
Zeller, Albert T., 605 Locust St., McKeesport.
Zeok, John, 212 Eleventh St., Braddock.
Zieg, George A., 802 Cedar Ave., N. S.
Ziegler, Charles E., 4715 Fifth Ave.
Zinsser, Harry F., 5134 Butler St.
Zugsmith, Edwin, 1014 Jenkins Arcade Bldg.
ZurHorst, Edward William, 1463 Green Mount Ave., Dormont.

ARMSTRONG COUNTY SOCIETY

(Organized March 28, 1876.)

President...David I. Giarth, Ford City.
V. Pres.....William J. Bierer, Kittanning.
John M. Cooley, Kittanning.
Sec., Treas. and Rept...J. B. F. Wyant, Kittanning.
Censors.....L. Dent Allison, Kittanning.
Charles A. Rogers, Freeport.
Albert E. Bower, Ford City.

Samuel Ambrose, Rural Valley.
David H. Riffer, Leechburg.
Committee on Public Policy and Legislation:
Thomas N. McKee, Kittanning.
Jesse E. Ambler, Ford City.
William J. Bierer, Kittanning.
Prog. Com.. John M. Cooley, Kittanning.
Charles M. McLaughlin, Freeport.
Jay B. F. Wyant, Kittanning.
Mem. Com.. Charles J. Jessop, Kittanning.
Albert E. Bower, Ford City.
Samuel E. Ambrose, Rural Valley.

Stated meetings at General Hospital, Kittanning, first Tuesday of each month. Election of officers in January.

MEMBERS (57)

Allison, James G., McGrann.
Allison, L. Dent, Kittanning.
Allison, Thomas M., Kittanning.
Ambler, Jesse E., Ford City.
Ambrose, Samuel E., Rural Valley.
Aye, Thomas L., Tarentum (Allegheny Co.).
Barton, Blain B., Adrian.
Bierer, William J., Kittanning.
Bower, Albert E., Ford City.
Brown, J. M. E., Creighton (Allegheny Co.).
Campbell, Oren C., Ford City.
Clark, Omar C., Worthington.
Cooley, John M., Kittanning.
Deemar, John T., Kittanning, R. D. 1.
Deemar, Roscoe, Kittanning, R. D. 1.
Fleming, Edward L., Dayton.
Giarth, David I., Ford City.
Hargreave, James H., Kelly Station.
Heilman, Frank W., Kittanning.
Heilman, Uriah O., Leechburg.
Henry, Thomas J., Apollo.
James, John A., Yatesboro.
Jessop, Charles J., Kittanning.
Keeler, Charles E., Elderton.
Kelly, James A., Whitesburg.
King, Jesse H., Worthington.
Kiser, John K., Kittanning.
Knight, George A., Kaylor.
Kroh, Laird F., Rural Valley.
Lawson, Eleanor J. Hetrick, Kittanning.
Leech, William W., Apollo.
Longwell, Benjamin J., Seminole R. D., New Bethlehem (Clarion Co.).
Lowery, John A., South Bend.
McCafferty, William H., Freeport.
McCain, Gilpin M., 210 E. 64th St., New York City.
McKee, Thomas N., Kittanning.
McLaughlin, Charles M., Freeport.
Mead, Ralph K., Sagamore.
Monks, Frederick C., Kittanning.
Morrow, George S., Dayton.
Newcome, Thomas H., Templeton.
Orr, Joseph D., Leechburg.
Parks, Clarence C., Leechburg.
Powers, Henry K., New Kensington (Westm. Co.).
Ralston, William J., Freeport, R. D. 1.
Riffer, David H., Leechburg.
Robinstein, Carl H., Ford City.
Rogers, Charles A., Freeport.
Sedwick, Andrew, Kittanning.
Skilton, Avery W., Cadogen, Kittanning.
Stone, Henry B., Kittanning.
Tarr, Robert F., Kittanning.
Thomas, David O., New Kensington (Westm. Co.).
Townsend, A. Howard, Apollo.
Welsh, Howard M., Leechburg.
Winters, Ellis C., Ford City.
Wyant, Jay B. F., Kittanning.

BEAVER COUNTY SOCIETY

(Organized Nov. 23, 1855.)

President... Robt. M. Patterson, Beaver Falls.
V. Pres..... Walter H. Herriott, Freedom.
Sec.-Treas.. B. B. Snodgrass, Rochester.
Reporter.... F. H. McCaskey, Freedom.
Censors..... F. B. Wilson, Beaver, 3 years.
B. C. Painter, New Brighton, 2 years.
A. B. Cloak, Freedom, 1 year.
Committee on Public Policy and Legislation:
George J. Boyd, Beaver Falls.
Bert C. Painter, New Brighton.

Stated meetings held in the Welcome Club, Rochester, on the second Thursday of each month, at 3:30 p. m. Election of officers in January.

MEMBERS (57)

Ague, John B., Beaver Falls.
Allen, John J., Monaca.
Arthur, Walter C., Ambridge.
Beitsch, William F., New Brighton.
Bernhardy, Harry W., Rochester.
Boal, G. Fay, Freedom.
Boal, John H., 1041 Third Ave., Freedom.
Boyd, George J., Beaver Falls.
Campbell, Ernest W., Midland.
Cloak, Andrew B., Freedom.
Collins, J. A., Beaver.
Cornelius, Margaret I., Beaver.
Downie, Regina M., Beaver Falls.
Elliott, Washington F., Beaver Falls.
Fish, James C., Beaver Falls.
Forcey, Charles B., Ambridge.
Gilliland, J. Frank, Beaver Falls.
Grazier, Harry L., Woodlawn.
Heller, Percy K., Freedom.
Herriott, Walter H., Freedom.
Hoffman, Ira Calvin, Monaca.
Jones, Harry B., Woodlawn.
Lacy, Henry C., New Brighton.
Louthan, James S., Beaver Falls.
McCandless, Milton L., Rochester.
McCaskey, Francis H., Freedom.
McGeorge, C. S., Ambridge.
McGogney, Charles B., Midland.
Mead, Harry B., New Brighton.
Meanor, William C., Beaver.
Mellon, George W., Woodlawn.
Mellott, Albert N., Ambridge.
Miller, John L., Aliquippa.
Miller, Leroy B., New Brighton.
Moore, Chalmers B., New Galilee.
Moore, Darius C., Monaca.
Moore, Harry E., Ambridge.
Painter, Bert C., New Brighton.
Patterson, Robert M., Beaver Falls.
Peirsol, Scudder H., Jr., Rochester.
Rose, Walter A., Rochester.
Sawyer, Benjamin C., Darlington.
Schley, Kate M. T., Beaver Falls.
Scroggs, Joseph J., Beaver.
Shields, William S., Koppel.
Shugert, Guy S., Rochester.
Simpson, Theodore P., Beaver Falls.
Snodgrass, Boyd B., Rochester.
Snodgrass, Bruce H., Beaver Falls.
Stevens, John A., Woodlawn.
Stevenson, John D., 340 College Ave., Beaver.
Straessley, Edward C., 1009 Sixth Ave., Beaver Falls.
Strouss, Ulysess S., Beaver.
Townsend, LeRoy S., Beaver Falls.
Wickham, John J., Rochester.
Wilson, Fred B., Beaver.
Wilson, Jefferson H., Beaver.

BEDFORD COUNTY SOCIETY

(Organized July 29, 1904.)

President...William P. S. Henry, Everett.
V. Pres.....James F. Price, Six Mile Run.
Sec.-Treas..Harry I. Shoenthal, New Paris.
Reporter....Edmund L. Smith, Bedford.
Censors.....Harry A. Shimer, Alum Bank.
Walter F. Enfield, Bedford.
Wilmot Ayres, Bedford.
William P. S. Henry, Everett.
Committee on Public Policy and Legislation:
Harry A. Shimer, Alum Bank.
William C. Miller, State Health Dept., Harrisburg.

Stated meetings bimonthly in Bedford or in other places as may be determined by vote of the society. Election of officers in January.

MEMBERS (19)

Anderson, John C. Schellburg.
Ayres, Wilmot, Bedford.
Brumbaugh, S. Clarence, Windber (Somerset Co.).
Campbell, Frank S., Hopewell.
Cornelius, Thorne, Riddlesburg.
Eaton, Paul, 2100 Callow Ave., Baltimore, Md.
Enfield, Walter F., Bedford.
Evans, A. Hank, Saxton.
Fawcett, William E., State San., Cresson (Camb. Co.).
Hanks, Jason G., Everett.
Hunt, Benjamin F., Mechanicsburg (Cumb. Co.).
Lindsey, James W., Imler.
Miller, Abram M., Hyndman.
Miller, William C., State Dept. of Health, Harrisburg. (Dauphin Co.).
Nycum, William E., Everett.
Shimer, Harry A., Alum Bank.
Shoenthal, Harry I., New Paris.
Smith, Edmund L., Bedford.
Taylor, Thomas S., Schellburg.

BERKS COUNTY SOCIETY

(Organized 1824.)

(Reading is the postoffice when street address only is given.)

President...George W. Overholser, 309 N. Ninth St.
V. Pres.....George G. Wenrich, Wernersville.
S. Banks Taylor, 140 Oley St.
Secretary...C. P. Henry, 846 Center Ave.
Treasurer...H. U. Miller, Mt. Penn, Reading.
Librarian...F. G. Runyeon, 1390 Perkiomen Ave.
Reporter....C. S. Keiser, 36 North Tenth St.
Censors.....Daniel Longaker, 812 North Fifth St.
Irvin H. Hartman, 237 North Fifth St.
Charles Werley, 317 South Sixth St.
Trustees....Harry F. Rentschler, 228 North Sixth St.
George W. Kehl, 418 North Tenth St.
Charles W. Bachman, 221 North Sixth St.
S. Banks Taylor, 140 Oley St.
Israel Cleaver, 223 South Fifth St.

Stated meetings at Medical Hall, Reading, the second Tuesday of each month at 3 p. m. Election of officers in December.

MEMBERS (118)

Alexander, Robert M., S. W. Cor. Sixth and Elm Sts.
Allen, H. Melvin, 422 Walnut St.
Ammarell, Winfield H., Birdsboro.
Bachman, Charles W., 221 North Sixth St.
Bagenstose, Harry W., West Reading.
Bankes, Claude W., 212 North Sixth St.
Bauscher, Abner H., Temple.
Becker, John N., 332 North Ninth St.
Bertolet, John M., 1333 Perkiomen Ave.
Bertolet, Walter M., 1713 Center Ave.
Bertolet, William S., 233 North Sixth St.
Bertolette, Daniel N., 127 South Sixth St.
Borneman, John S., Boyertown.
Bower, John L., Broad St. Station, P. R. R., Philadelphia.
Bowman, Paul N., Base Hospital, San Antonio, Tex.
Brunner, H. Philemon, 122 Oley St.
Bucher, Hiester, 142 South Fifth St.
Burkholder, Samuel G., 613 Walnut St.
Cahn, Morris L., 551 North Eleventh St.
Cantough, C. S., 146 North Ninth St.
Cleaver, Israel, 223 South Fifth St.
Colletti, Ferdinando, 15 North Fourth St.
DeLong, Eugene R., Geiger's Mills.
Dietrick, Charles J., 206 West Oley St.
Dries, Charles L., Eshbach.
Dunkelberger, Nathaniel Z., Kutztown.
Fahrenbach, George W., Bernville.
Feick, John F., 643 North Ninth St.
Fisher, William E., 151 West Buttonwood St.
Fox, Oscar E., 232 North Fifth St.
Frankhauser, Fremont W., State Asylum, Wernersville.
Gehris, Oscar T., Fleetwood.
Gerhard, James R., 540 Center Ave.
Griesemer, Wellington D., 911 Washington St.
Gruver, Martin E., 247 North Fifth St.
Hain, Ira J., 1119 North Ninth St.
Harding, Ralph A., 209 West Greenwich St.
Hartman, Irvin H., 237 North Fifth St.
Hawman, Erle G., 4001 N. Broad St., Philadelphia.
Haws, Ralph J., 1050 Perry St.
Hengst, Milton A., Birdsboro.
Henry, Charles P., 846 Center Ave.
Hertzog, C. Frank, Oley.
Hetrich, George, Birdsboro.
High, Isaac B., Shillington.
Hill. Samuel S., Wernersville.
Horne, John H., Womelsdorf.
Hunsberger, William E., Maiden Creek.
Huyett, M. Luther, 334 North Fifth St.
Kauffman, John W., 814 North Eleventh St.
Kehl, George W., 418 North Tenth St.
Kieffer, Elmer C., 900 North Fifth St.
Krum, Octavia L., Wernersville.
Kurtz, J. Ellis, 22 South Fifth St.
Kurtz, Samuel L., 412 South Fifth St.
Lechner, LeRoy Y., Bechtelsville.
LeFevre, Rufus E., 138 South Eighth St.
Leinbach, Howard Milton, 323 North Fifth St.
Leiser, William, III, 336 North Ninth St.
Lenker, Robert W., West Leesport.
Lerch, Charles Edmund, Wyomissing.
Levan, George K., 300 South Fifth St.
Light, Israel J. K., 350 North Sixth St.
Livingood, John E., Womelsdorf.
Livingood, William W., Robesonia.
Long, William S., 322 North Fifth St.
Longaker, Daniel, 812 North Fifth St.
Loose, Charles G., 120 North Fifth St.
Lytle, Frank P., Birdsboro.
McHenry, Donald B., State Hospital, Wernersville.
Matternes, James G., Sinking Spring.
Meter, Edward G., 948 Penn St.
Miller, Howard U., Mt. Penn, Reading.
Muhlenberg, Heister H., 34 South Fifth St.
Need, Daniel W., 816 North Fifth St.
Newcomet, Henry I., 48 North Fourth St.
Newcomet, Isaac W., Stouchsburg.
Oberholtzer, Morris B., Boyertown.
Orff, John Henry, Wyomissing.
Overholser, George W., 309 North Ninth St.
Potteiger, George F., Hamburg.
Reeser, Howard S., 111 South Fifth St.

Rentschler, Harry F., 228 North Sixth St.
Rhoads, Thomas J. B., Boyertown.
Rhode, Homer J., 220 North Sixth St.
Roland, Charles, 105 South Fifth St.
Rorke, John H., 342 North Fifth St.
Rothrock, Addison M., 132 South Ninth St.
Runyeon, Frank G., 1390 Perkiomen Ave.
Saul, Henry W., Kutztown.
Schaeffer, Harry B., Shillington.
Schlappich, Charles E., Birdsboro.
Schlemm, Horace E., 25 South Fifth St.
Schmehl, Seymour T., 110 North Ninth St.
Scholten, Ernest R., 431 Windsor St.
Shearer, Christopher H., 206 North Fifth St.
Shearer, Wayne L., 101 West Greenwich St.
Shenk, George R., 116 South Ninth St.
Shetter-Keiser, Clara, 36 North Tenth St.
Shoemaker, Ira G., 19 South Ninth St.
Smith, Charles F., Topton.
Sondheim, Sidney J., 1044 North Tenth St.
Stamm, Allison A., Mohnton.
Stites, Thomas H. A., State Sanatorium, Hamburg.
Stockler, Joseph, 228 North Fifth St.
Taylor, S. Banks, 140 Oley St.
Wagner, Jesse L., 152 North Sixth St.
Wagner, Levi F., 610 North Tenth St.
Wanner, Abram K., 411 Washington St.
Wenger, LeRoy J., 1108 North Eleventh St.
Wenrich, George G., Grandview Sanatorium, Wernersville.
Wenrich, John Adam, Grandview Sanatorium, Wernersville.
Werley, Charles D., 317 South Sixth St.
Wheeler, Lucia Anna, State Hospital, Wernersville.
Wickert, Victor W., 1009 Penn St.
Winston, Gilbert I., 320 North Fifth St.
Womer, Frank, 216 North Sixth St.
Ziegler, John George, 340 South Third St.

BLAIR COUNTY SOCIETY

(Organized July 25, 1848.)

(Altoona is the postoffice when street address only is given.)

President...S. P. Glover, 1118 12th Ave.
V. Pres.....C. W. Burket, 523 4th St.
D. F. Glasgow, Tyrone.
Sec.-Treas..Charles F. McBurney, 710 9th St.
Cor. Sec. and Rept...A. S. Kech, 1209 16th St.
Censors.....W. A. Nason, Roaring Spring.
J. E. Smith, 410 4th St.
Samuel L. McCarthy, 1331 8th Ave.

Committee on Public Policy and Legislation:
D. G. Bliss, Ch., 1220 13th Ave.
C. W. Delaney, Treas., 1320 9th St.
Charles F. McBurney, Sec., 710 9th St.
J. D. Findley, 802 12th St.
C. W. Burket, 523 4th St.

Stated meetings held in Community Hall, City Building, Altoona, the fourth Tuesday of each month except September, in which month meeting is held on third Thursday at 3 p. m.

MEMBERS (81)

Alleman, George E., 1419 Twelfth Ave.
Allen, David E., 1325 Eighth Ave.
Baker, George E., Williamsburg.
Bliss, Gerald D., 1220 Thirteenth Ave.
Bloomhardt, Fred H., 1907 Eighth Ave.
Blose, Joseph U., 401 Howard Ave.
Bradin, Carey C., Tyrone.
Brotherlin, Henry H., Hollidaysburg.
Brubaker, John L., Juniata.
Brumbaugh, Arthur S., 1405 Tenth St.
Burket, Clair W., 523 Fourth St.
Confer, D. Clarence, Duncansville.
Crawford, Luther Fleck, Tyrone.
Dandois, George F., Martinsburg.
Davies, Sarah M., 1307 Twelfth Ave.
Davis, Daniel W., Six Mile Run (Bedford Co.).
Deck, Roy, Hollidaysburg.
Delaney, Charles Walter, 1320 Ninth St.
Eldon, Roswell T., 1624 Eleventh Ave.
Findley, Joseph D.. 802 Twelfth St.
Fox, Charles W., Roaring Spring.
Frye, J. Clarence, Williamsburg.
Galbraith, John H., 1201 Sixth Ave.
Glasgow, David Fulkerson, Tyrone.
Glover, Samuel P., 1118 Twelfth Ave.
Grounds, Wilbert L., Washington (Washington Co.).
Haagen, David F., 227 Fourth St., Union Hill, N. J.
Haberacker, Eugene O. M., 2222 Seventh Ave.
Handwork, Andrew Jackson W., 1227 Twelfth Ave.
Hillis, Robert J., N. W. Cor. Fourth Ave. and Sixth St., Juniata.
Hogue, Davis A., 922 Seventeenth St.
Hogue, John D., 1201 Thirteenth Ave.
Howell, William H., 1123 Twelfth Ave.
Hull, Logan E., 1214 Thirteenth Ave.
Johnston, Charles O., Claysburg.
Jones, Henry O., 57 Altoona Trust Building.
Kauffman, David, 1119 Twelfth Ave.
Keagy, Frank, 401 Fourth Ave.
Kech, Augustus Sheridan, 1209 Sixteenth St.
Levengood, Brooklyn B., Bellwood.
Long, Charles, Salemville (Bedford Co.).
Loudon, Edward W., 4001 Fifth Ave.
Lowrie, William L., Tyrone.
McBurney, Charles F., 710 Ninth St.
McCarthy, Harry, 1411 Twelfth Ave.
McCarthy, Samuel L., 1331 Eighth Ave.
McCarthy, S. Lloyd, Jr., 1331 Eighth Ave.
McKee, Lewis E., 1103 Thirteenth Ave.
Meminger, William H., Juniata.
Metzgar, Carl H., 1424 Twelfth Ave.
Miller, Edwin B., 1903 Seventh Ave.
Miller, Homer C., 1202 Sixteenth St.
Montgomery, Chalmers, 1218½ Twelfth Ave.
Morrow, Emory H., 1418 Twelfth Ave.
Morrow, Hugh B., Williamsburg.
Musser, Walter Scott, Tyrone.
Nason, John B., Tyrone.
Nason, W. Albert, Roaring Spring.
Neff, Elmer E., 813 Eighth Ave.
Noss, Charles W., 1118 Seventh Ave.
Oburn, Albert S., 701 Seventh Ave.
Pershing, Paul Frederick, 1203 Seventh Ave.
Reith, Emil, Central Trust Building.
Robinson, William H., Roaring Spring.
Robison, Clair E., 930 Seventeenth St.
Shaffer, Orr H., 1116 Twelfth Ave.
Shultz, Charles Lytle, 508 Second St., Juniata.
Smith, James E., 410 Fourth St.
Snyder, Claude Edwin, 831 Sixth Ave.
Snyder, John R. T., 404 Howard Ave.
Sommer, Henry J., Jr., Blair Co. Hosp., Hollidaysburg.
Spanogle, Albert L., 1226 Seventh Ave.
Stayer, Andrew S., Nat. Soldiers' Home, Wis.
Stonebreaker, Samuel L., Tyrone.
Tate, George F., 26 S. Beaver St., York (York Co.).
Taylor, James S., Altoona Trust Co. Bldg.
Thomas, Herbert C., 2413 Broad Ave.
Watson, Louis Stockton, 53 Central Trust Bldg.
Watson, James G., Juniata.
Whittaker, Ralph R., Williamsburg.
Wilson, Thomas L., Bellwood.

BRADFORD COUNTY SOCIETY

(Organized Sept. 20, 1849.)

President...Daniel L. Bevan, Leroy.
V. Pres.....Arthur L. Parks, Rome.
Philip H. Schwartz, Towanda.
Sec.-Rept...Cyrus Lee Stevens, Athens.
Treasurer...Charles M. Woodburn, Towanda.
Censors.....Howard C. Down, Wysox, 3 yrs.
Nelson S. Weinberger, Sayre, 2 yrs.
Arthur L. Parks, Rome, 1 yr.
Exec. Com..Daniel L. Bevan, Leroy.
Cyrus Lee Stevens, Athens.
C. Melvin Coon, Athens.
Committee on Public Policy and Legislation:
Donald Guthrie, Sayre.
C. Manville Pratt, Towanda.
Alpheus E. Dann, Canton.

Stated meetings the second Tuesday of each month at 1:30 p. m., in the Court House, Towanda, unless otherwise ordered. Election of officers in January.

MEMBERS (51)

Badger, Samuel W., Athens.
Ballard, Mahlon B., Troy.
Barker, Perley N., Troy.
Bevan, Daniel L., Leroy.
Boyer, George E., Troy.
Campbell, William R., East Smithfield.
Carpenter, Philo S., Laquin.
Chamberlain, John W., Wyalusing.
Conklin, Gustavus, Orwell.
Coon, C. Melvin, Athens.
Coughlin, Alfred G., Athens.
Daly, John Edward, Ulster.
Dann, Alpheus E., Canton.
Davison, Willis T., Canton.
DeWan, Charles H., Sayre.
Down, Howard C., Wysox.
Durga, Gideon W., LeRaysville.
Everitt, John E., Sayre.
Gemmill, James R., Canton.
Glover, Henry A., Nichols, N. Y.
Gustin, Grant H., Sylvania.
Guthrie, Donald, Sayre.
Haines, Carlyle N., Sayre.
Haines, Charles A., Sayre.
Haines, John F., Monroeton.
Harshberger, W. Frank, New Albany.
Hawk, George W., Sayre.
Higgins, John M., Sayre.
Inslee, Fayette Lane, LeRaysville.
Johnson, Thomas B., Towanda.
Johnson, T. Ben, Jr., Towanda.
LaPlant, Hiram D., Sayre.
Lee, John C., Rummerfield.
Means, Charles S., Towanda.
Mingos, Jay D., Laquin.
Parks, Arthur Lloyd, Rome.
Parsons, James W., Canton.
Person, Russell H., Burlington.
Phillips, John W., Troy.
Pratt, C. Manville, Towanda.
Pratt, D. Leonard, Towanda.
Reed, Charles, Towanda.
Rice, Frederick W., Sayre.
Rinebold, Nathan A., Athens.
Schwartz, Philip H., Towanda.
Stevens, Cyrus Lee, Athens.
Sumner, Porter H., Camptown.
Terry, George H. B., Wyalusing.
Tuttle, Homer, Sayre.
Weinberger, Nelson S., Sayre.
Woodburn, Charles M., Towanda.

BUCKS COUNTY SOCIETY

(Organized June 14, 1848. Reorganized Oct., 31, 1862.)

President...I. Swartz Plymire, Doylestown.
V. Pres.....William F. Weisel, Quakertown.
Sec.-Treas.
and Rept..Anthony F. Myers, Blooming Glen.
Censors.....George M. Grim, Ottsville.
Wm. R. Cooper, Point Pleasant.
Howard Pursell, Bristol.

Stated meetings at 12 m., the second Wednesday in February at Newtown; in May at Bristol; in August at Quakertown; in November at Doylestown. Election of officers in November.

MEMBERS (90)

Abbott, Charles Shewell, Bristol.
Abbott, Joseph de Benneville, Bristol.
Althouse, Albert C., Dublin.
Bassett, Henry Linn, Yardley.
Biehn, Andrew C., Quakertown.
Boring, H. Bruce, Richlandtown.
Brewer, George M., Plumsteadville.
Brown, Walter H., 280 Glenwood Ave., Bridgeport, Conn.
Burkhardt, Charles N., Chalfont.
Bush, Irvine M., 339 Dorrance St., Bristol.
Carrell, John B., Hatboro (Montgomery Co.).
Carter, J. Morris, Eddington.
Collins, James, Bristol.
Cooper, William R., Point Pleasant.
Cope, F. Gurney, Upper Black Eddy.
Crater, John Simpson, Bristol.
Crewitt, John A., Newtown.
Crouthamel, Joseph F., Souderton (Montgomery Co.).
Dill, Mahlon B., Perkasie.
Ellenberger, Joseph M., Harriman.
Erdman, William S., Buckingham.
Erdman, Wilson S., Quakertown.
Fell, John A., Doylestown.
Fleckenstine, Horace, Newportville.
Fox, George T., Bristol.
Fretz, Alfred E., Sellersville.
Fretz, Clayton D., Sellersville.
Fretz, Oliver H., Quakertown.
Fretz, S. Edward, Box 15, Whitestone, L. I., N. Y. C.
Grim, George M., Ottsville.
Grim, Herman C., Trumbauersville.
Groff, James E., Doylestown.
Harper, James Wesley, 380 Keever Ave., Crafton (Allegheny Co.).
Hellyer, Howard A., Penns Park.
Hennigh, George B., Perkasie.
Huff, Irwin F., Sellersville.
Huntsman, Edwin S., Hulmeville.
Imhoff, Wm. H. M., Norristown (Montgomery Co.).
Jacobs, John N., Lansdale (Montgomery Co.).
Johnson, Erwin T., Hilltown.
Jourdan, Victor J. P., Bristol.
Klenk, James M., Tullytown.
Kline, Horace F., Bristol.
LeCompte, William C., Bristol.
Lehman, Frank, Bristol.
Leinbach, Samuel A., Quakertown.
Lovett, Henry, Langhorne.
MacKenzie, Arthur L., 316 Radcliffe St., Bristol.
McIlhatten, Samuel Patterson, Ivyland.
Magill, Roscoe C., Newhope.
Marsteller, Victor K., Spinnerstown.
Moyer, William G., Quakertown.
Murphy, Felix A., Doylestown.
Myers, Anthony F., Blooming Glen.
Nonamaker, Noah S., Bedminster.
O'Connell, Austin, Bucksville.
Osborne, Richard H. G., Morrisville.
Parker, George A., Southampton.
Parker, George A., Jr., Newtown.

Paulus, Clarence A., Telford.
Peters, Byron M., Jenkintown (Montgomery Co.).
Plymire, I. Swartz, Doylestown.
Pownall, Elmer E., Richboro.
Pursell, Howard, Bristol.
Rich, Edward Y., Marietta (Lancaster Co.).
Richards, James N., Fallsington.
Richardson, Russell, 320 South Sixteenth St., Philadelphia.
Ridge, Samuel LeRoy, Langhorne.
Scott, J. Ernest, Newhope.
Smith, Charles B., Newtown.
Smith, Edwin L., Hatboro (Montgomery Co.).
Stoumen, Samuel, Springtown.
Strouse, Otto H., Perkasie.
Swartzlander, Frank B., Doylestown.
Swartzlander, Joseph R., Doylestown.
Sweeney, John J., Doylestown.
Thomas, Harry L., Langhorne.
Wagner, James F., Bristol.
Walter, Charles A., Glenside (Montgomery Co.).
Walter, J. Willis, Point Pleasant.
Walter, Terry, Langhorne.
Walton, Levi S., Jenkintown (Montgomery Co.).
Wareham, Arthur, Morrisville.
Watson, Franklin, Willow Grove.
Weierbach, John A., Quakertown.
Weisel, William F., Quakertown.
Wetmore, Stephen S. P., 3006 Atlantic Ave., Atlantic City, N. J.
Wilkinson, William J., Sellersville.
Williams, Neri B., Perkasie.
Winder, Lawrence J., Andalusia.

BUTLER COUNTY SOCIETY

(Organized Jan. 3, 1867.)

(Butler is the postoffice when street address only is given.)

President...J. D. Purvis, 140 E. Jefferson St.
V. Pres.....A. H. Ziegler, 112 Washington St.
R. J. Grossman, 408 Center Ave.
Sec.-Rept...L. Leo Doane, 203 S. Main St.
Treasurer...M. E. Headland, 216 Center Ave.
Librarian...R. B. Greer, 371 N. Main St.
Censors.....R M. Christie, Petersville, 3 yrs.
W B. Clark, 135 S. Main St., 2 yrs.
E. E. Campbell, Butler, 1 yr.
Committee on Public Policy and Legislation:
J. Clinton Atwell, 315 N. Main St.
Elgie L. Wasson, Co. Natl. Bank Bldg.

Stated meetings in the Community Building, Butler, the second Tuesday in each month at 8:30 p. m. Election of officers in January.

MEMBERS (53)

Allison, Robert L., Eau Claire.
Atwell, J. Clinton, 315 N. Main St.
Beatty, George M., Chicora.
Boyle, James C., 121 E. Cunningham St.
Brandberg, Guy A., 358 Center Ave.
Campbell, Ephriam E., Butler.
Campbell, John S., Portersville.
Campbell, Willard B., Harrisville.
Campbell, William B., Prospect.
Christie, Ralph M., Petersville.
Clark, William B., 135 S. Main St.
Cowden, John V., 228 S. Main St.
DeLong, Francis E., Boyers.
DeWolfe, Charles L., Chicora.
DeWolfe, Willard L., 207 S. McKean St.
Doane, L. Leo, 203 S. Main St.
Dombart, Nicholas A., Evans City.
Dunkle, John M., Butler.
Elrick, Robert B., Petrolia.
Fulton, Samuel R., Harrisville.
Greer, Robert B., 371 N. Main St.
Grossman, Robert J., 408 Center Ave.
Grossman, William J., 312 W. Jefferson St.
Hazlett, Leslie R., Box 643.
Headland, M. Edward, 216 Center Ave.
Heilman, Arthur M., 126 E. Diamond St.
Hockenberry, Harvey D., West Sunbury.
Hockenberry, W. Rush, Slippery Rock.
Hunter, Charles S., 4927 Center Ave., Pittsburgh (Allegheny Co.).
Ketterer, Clarence Henry, 348 S. Main St.
Lasher, Weston W., Saxonburg.
Lowry, Walter T., Sharon, R. D. 67 (Mercer Co.).
McCall, Willis A., 215 S. Main St.
McCandless, Dwight L., 117 E. Diamond St.
Maxwell, Thomas McCullough, 207 S. Main St.
Mershon, Edwin U. B., Saxonburg.
Purvis, Joseph D., 140 E. Jefferson St.
Robb, Claude A., 129 S. Main St.
St. Clair, Harry P., 213 S. Main St.
St. Clair, Mary P. Brooke, 213 S. Main St.
Scott, William McC., Marwood.
Simpson, Egbert T., 213½ S. Main St.
Stepp, Lawrence H., Mars.
Stewart, Arthur I., Harmony.
Thompson, Raymond A., 110 S. Main St.
Walker, Ralph, 8 S. New St., Bethlehem (Northampton Co.).
Wasson, Elgie L., Co. Natl. Bank Bldg.
Whittaker, Arthur E., 309 Spring Ave., Ellwood City (Lawrence Co.).
Williams, Olin A., 128 S. Main St.
Wilson, Harry M., Evans City.
Wilson, Harry R., Evans City.
Young, Clinton M., Queens Junction.
Ziegler, Alfred Henry, 112 Washington St.

CAMBRIA COUNTY SOCIETY

(Organized 1852. Reorganized 1868 and 1882.)

(Johnstown is the postoffice when street address only is given.)

President...H. J. Cartin, 100 Main St.
V. Pres.....O. G. A. Barker, 804 Johnstown Trust Bldg.
H. T. Prideaux, Cresson.
Sec., Treas.
and Rept....L. W. Hornick, 130½ Market St.
Censors.....H. F. Tomb, 132 Jackson St.
O. G. A. Barker, 804 Johnstown Trust Bldg.
S. S. Kring, Johnstown Trust Bldg.

Stated meetings every second Thursday at 3 p. m., at G. A. R. Hall, Johnstown. Officers elected in December and installed in January.

MEMBERS (114)

Akers, Andrew Franklin, Gallitzin.
Anderson, Guy R., Barnesboro.
Bancroft, John Walter, 504 Swank Bldg.
Barbouhr, Michael A., 130½ Market St.
Barker, Olin G. A., 804 Johnstown Trust Bldg.
Barnett, George W., 437 Lincoln St.
Barr, John W., Nanty Glo.
Basil, Arthur A., 209 Market St.
Beatty, Arthur W., Colver.
Bennett, Harry J., Ebensburg.
Benshoff, Arthur M., Park Pl. (Schuylkill Co.).
Bishop, Frank, Ebensburg.
Blair, Walter Allen, Spangler.
Bowers, Benjamin F., St. Benedict.
Bowman, Kent A., 223 Market St.
Boyer, Edwin C., 213 Market St.
Brallier, Stanley A. E., 312 Green St., Conemaugh.

Braude, Bennett A., 531 Locust St.
Brinham, Alfred W., Scalp Level.
Burkhart, Ephraim J., 189 Fairfield Ave.
Cartin, Harry J., 100 Main St.
Claybourne, Moses, 213 Adams St.
Cleaver, Philip R., Johnstown Trust Bldg.
Custer, Charles C., 524 Locust St.
Davis, Robert C., 413 Locust St.
Davison, Seward R., 225 Market St.
Dickinson, E. Pope, St. Michael.
Difenderfer, Herman G., Beaverdale.
Donlan, Francis A., Lilly.
Dunnick, Milton C., Nanty Glo.
Dunsmore, Albert F., Barnesboro.
Ealy, Edwin T., Barnesboro.
Ferguson, Frank U., Gallitzin.
Fichtner, Albon S., 119 First St.
Fichtner, Albon Ellsworth, First St., Conemaugh.
Fisher, Daniel E., Needmore (Fulton Co.).
Fitzgerald, Clyde A., South Fork.
George, William J., 305 Pine St.
Griffith, Harvey M., 431 First St., Conemaugh.
Griffith, William S., 600 Franklin St.
Grove, William E., 181 Fairfield Ave.
Gurley, Lycurgus M., 406 Main St.
Haight, William D., 544 Coleman Ave.
Hammer, Charles M., 602 Central Ave.
Hannan, Charles E., 531 Locust St.
Harris, Clarence M., 604 Johnstown Trust Bldg.
Hay, George, 444 Lincoln St.
Hays, Charles Elliott, Johnstown Trust Bldg.
Healey, Bernard C., Barnesboro.
Helfrick, T. Orlando, Spangler.
Helsel, William L., Scalp Level.
Hill, Homer L., 1330 Franklin St.
Hornick, Leo W., 130½ Market St.
Horowitz, Max, 402 Broad St.
Jefferson, James, 415 Locust St.
Jones, Emlyn, 207½ Market St.
Jones, Leighton Wherry, 434 Lincoln St.
Keiper, Jacob D., 801 Bedford St.
Kessler, William C., Ehrenfeld.
Kress, Frederick C., 251 Main St.
Kring, Sylvester S., Johnstown Trust Bldg.
Leech, A. Wallace, Beaverdale.
Livingston, Frank J., Salix.
Longwell, Benton Elkins, 441 Locust St.
Lowman, John Bodine, 114 Market St.
Lubken, William Oscar, Vine and Franklin Sts.
Lynch, James A., Cresson.
McAnulty, Arthur H., Nanty Glo.
McAneny, John B., 115½ Broad St.
Martin, George, 445 First St., Conemaugh.
Matthews, William E., 425 Lincoln St.
Maucher, Joseph V., Carrolltown.
Mayer, Louis H., 413 Main St.
Mayer, Louis H., Jr., 413 Main St.
Mendenhall, Thomas E., "The Rocks."
Meyer, Joseph J., 803 Franklin St.
Millhoff, Clarence B., 627 Franklin St.
Miltenberger, Arthur, Franklin St.
Murray, John A., Patton.
Murray, Valesius A., Patton.
Nickel, Harry G., Farmers T. and M. Bldg.
Palmer, Robert M., 410 Lincoln St.
Pardoe, Edward, South Fork.
Parker, Ray, Ehrenfeld.
Penrod, Harry Hartzell, 116 Main St.
Porch, George B., 221 Broad St.
Porch, Latshaw Lynn, 221 Broad St.
Prideaux, Harry T., Cresson.
Prideaux, William A., Expedit.
Pringle, William N., 413 Locust St.
Ray, Daniel Pattee, 906 First Natl. Bank Bldg.
Raymond, Walter C., Lilly.
Reddy, William J., 115½ Broad St.
Rice, Daniel S., Hastings.
Sagerson, John Leo, 431 Lincoln St.
Sagerson, Robert J., Lincoln and Walnut Sts.
Salus, Henry W., 420 Franklin St.
Scharmann, Frank G., 441 Main St.
Schill, Francis, 111 Jackson St.
Schilling, Francis M., 923 Second Ave., Westmount, Johnstown.
Schramm, Francis M. B., 272 Cooper St.
Schultz, Merritt B., 600 Park Ave.
Shank, Orlando J., Windber (Somerset Co.).
Sloan, Ira E., Main and Franklin Sts.
Somerville, Harry, Chest Springs.
Spicher, Clarence C., 566 Park Ave.
Stewart, Harry Myrrel, Johnstown Trust Bldg.
Stephens, Albert C., Nanty Glo.
Taylor, J. Swan, 408 Franklin St.
Tomb, Henson F., 132 Jackson St.
Turnbull, William G., Cresson.
VanWert, John Irving, Patton.
Woodruff, John B., Vine and Bedford Sts.
Yearick, George T., Portage.

CARBON COUNTY SOCIETY

(Organized April 20, 1881.)

President...Calvin J. Balliet, Lehighton.
V. Pres.....David F. Dreibelbis, Lehighton.
J. Harrington Young, Lansford.
Sec.-Treas..Jacob A. Trexler, Lehighton.
Reporter....James B. Tweedle, Weatherly.
Censors.....Jacob H. Behler, Nesquehoning.
Charles T. Horn, Lehighton.
Howard T. Hoffmeier, Mauch Chunk.
Committee on Public Policy and Legislation:
Jacob G. Zern, Lehighton.

Stated meetings are held at Mauch Chunk and Lehighton the third Wednesday, at 3 p. m., of January, March, May, July, September and November. Election of officers in November.

MEMBERS (32)

Armstrong, Alexander, White Haven (Luzerne Co.).
Balliet, Calvin J., Lehighton.
Batchelor, Roger P., Palmerton.
Behler, Jacob H., Nesquehoning.
Bellas, Joseph J., Lansford.
Buckley, Thomas Vincent, Girardville (Schuyl. Co.).
Christman, Robert A., Kresgeville (Monroe Co.).
Dreibelbis, David F., Lehighton.
Druckenmiller, Stanley F., Lansford.
Eshleman, Edward F., Palmerton.
Freyman, Ira E., Weatherly.
Haberman, Charles P., Weissport.
Henry, John K., Mauch Chunk.
Hersh, Harold E., Palmerton.
Hoffmeier, Howard T., Mauch Chunk.
Horn, Charles T., Lehighton.
Kasten, William H., Lansford.
Kingsbury, Oscar J., Nesquehoning.
Kistler, Clinton J., Lehighton.
Kistler, Edwin H., Lansford.
Kistler, Robert N., Lansford.
Long, Wilson P., Weatherly.
McDonald, John J., Nesquehoning.
Rupp, Roger R., Lehighton.
Sittler, Albert M., Bowmanstown.
Sittler, Warren C., Lehighton, R. D. 1.
Trexler, Jacob A., Lehighton.
Tweedle, James B., Weatherly.
Waaser, John E., East Mauch Chunk.
Wertman, Mahlon A., Palmerton.
Young, J. Harrington, Lansford.
Zern, Jacob G., Lehighton.

CENTER COUNTY SOCIETY

(Organized April 4, 1876.)

President...J. V. Foster, State College.
V. Pres.....J. R. Bartlett, Pleasant Gap.
Grover C. Glenn, State College.
Sec.-Treas..Melvin J. Locke, Bellefonte.
Reporter....J. L. Seibert, Bellefonte.
Committee on Public Policy and Legislation:
Scott M. Huff, Bellefonte.
David Dale, Bellefonte.
J. L. Seibert, Bellefonte.

Stated meetings the second Wednesday of each month at 10:30 a. m. in the Court House, Bellefonte. Election of officers in January.

MEMBERS (26)

Allison, John R. G., Millheim.
Bartlett, James R., Pleasant Gap.
Braucht, Harvey S., Springs Mills.
Brockerhoff, Joseph M., Bellefonte.
Dale, David, Bellefonte.
Dale, Peter Hoffer, State College.
Foster, John V., State College.
Frank, George S., Millheim.
Glenn, Grover Cleveland, State College.
Glenn, William S., State College.
Hardenbergh, John A., Millheim.
Harris, Edward H., Snow Shoe.
Huff, Scott M., 5 East High St., Bellefonte.
Irwin, William U., Bellefonte.
Kidder, Lincoln E., State College.
Kurtz, Walter J., Howard.
Locke, Melvin J., Bellefonte.
McEntire, O. W., Howard.
Musser, C. Sumner, Aaronsburg.
Reed, Marvin W., Bellefonte.
Ritenour, Joseph P., State College.
Rogers, James C., Bellefonte.
Sebring, John, Bellefonte.
Seibert, James L., Bellefonte.
Woods, George H., Pine Grove Mills.
Young, Robert J., Snow Shoe.

CHESTER COUNTY SOCIETY

(Organized Feb. 5, 1828.)

President...Jackson Taylor, Coatesville.
V. Pres.....P. C. Hoskins, West Chester.
Sec.-Treas..Joseph Scattergood, West Chester.
Reporter....Charles H. Stone, Coatesville.
Censors.....Charles E. Woodward, West Chester.
Edward Kerr, East Downingtown.
S. Horace Scott, Coatesville.
Exec. Com..Jackson Taylor, Coatesville.
Joseph Scattergood, West Chester.
Howard Y. Pennell, East Downingtown.
Prog. Com..William T. Sharpless, West Chester.
Charles E. Woodward, West Chester.
Joseph Scattergood, West Chester.
Committee on Public Policy and Legislation:
Edward Kerr, East Downingtown.
Jesse K. Patrick, West Chester.
Joseph Scattergood, West Chester.

Stated meetings at 2:30 p. m., on the third Tuesday of each month at West Chester. Election of officers in January.

MEMBERS (59)

Aiken, Thomas Gerald, Berwyn.
Betts, William W., Chadds Ford (Delaware Co.).
Bremerman, Lanan T., Downingtown.
Brower, Charles J., Spring City.
Brower, William, Spring City.
Bullock, Charles C., West Chester.
Carey, Robert B., Glenloch.
Cassel, Wilbur F., Spring City.
Catanach, Notman G., West Chester.
Cressman, George S., Pughtown.
Davis, Howard B., West Chester Hosp., West Chester.
Davis, John H., Coatesville.
Dietrich, George E., Coatesville.
Ehlinger, Clyde E., West Chester.
Emack, Frank D., Phoenixville.
Farrell, John A., West Chester.
Gifford, U. Grant, Kennett Square.
Heagey, Henry F. C., Cochranville.
Hemphill, Joseph, Jr., West Chester.
Hollingsworth, I. Pemberton P., 402 North Church St., West Chester.
Hollister, Frederick M., Embreeville.
Hoskins, Percy C., West Chester.
Hughes, Robert C., Paoli.
Hutchison, D. Edgar, East Downingtown.
Jacobs, Francis B., 102 South High St., West Chester.
Johnson, J., Huston, Glen Moore.
Kerr, Edward, East Downingtown.
Klevan, Oscar Jesse, 27 S. Church St., West Chester.
Kurtz, Clarence S., Malvern.
Margolies, Michael, Coatesville.
Maxwell, James Rea, Parkesburg.
Mellor, Howard, West Chester, R. D.
Moore, Lawrence C., Chatham.
Murphy, Walter A., Parkesburg.
Patrick, Jesse K., West Chester.
Pennell, Howard Y., East Downingtown.
Perdue, William R., West Chester, R. D. 5.
Pleasants, Henry, Jr., West Chester.
Rettew, David P., 323 East Chestnut St., Coatesville.
Rothrock, Harry A., West Chester.
Rothrock, Joseph T., West Chester.
Scattergood, Joseph, West Chester.
Schwegler, Jacob J., Kennett Square.
Scott, S. Horace, Coatesville.
Sharpless, William T., West Chester.
Smith, Mary H., Parkesburg.
Smith, Willis N., Phoenixville.
Spangler, John L., Devon.
Spratt, George R., Coatesville.
Steele, Marshall K., Chester County Hospital, Chester.
Stone, Chas. H., Coatesville.
Taylor, Jackson, Coatesville.
Taylor, James T., Pomeroy.
Thomas, John G., Newtown Square (Delaware Co.).
Walker, James B., Mendenhall.
Wells, John R., Chester Springs.
Williams, Della Hannah, Berwyn.
Woodward, Charles E., West Chester.
Woodward, W. Wellington, West Chester.

CLARION COUNTY SOCIETY

(Organized May 5, 1865.)

President...Charles V. Hepler, New Bethlehem.
V. Pres.....John M. Fitzgerald, Clarion.
Secretary...Charles C. Ross, Clarion.
Treasurer...Benjamin G. Wilson, Clarion.
Reporter....Sylvester J. Lackey, Clarion.
Censors.....A. J. Hepler, New Bethlehem.
George B. Woods, Curllsville.
Prog. Com..J. T. Rimer, Clarion.
Benjamin Wilson, Clarion.

Stated meetings at selected places the fourth Tuesday in April, July and October. Annual meeting at Clarion the fourth Tuesday of January.

MEMBERS (37)

Booth, Fred K., 302 Corbet St., Tarentum (Alle. Co.).
Brown, James A., New Kensington (Westm. Co.).
Camp, John M., Foxburg.
Clover, Cuvier L., Knox.
Dillenbeck, Charles O., Strattonville.

Fitzgerald, Charles A., Clarion.
Fitzgerald, John M., Clarion.
Greer, Robert J., New Kensington (Westm. Co.).
Harter, Thomas H., East Brady.
Hepler, Albert J., New Bethlehem.
Hepler, Charles Verne, New Bethlehem.
Hess, Henry M., Fryburg.
Hess, James M., Tylersburg.
Hoffman, Charles W., Rimersburg.
Hoover, Albert M., Parkers Landing (Arms. Co.).
Huston, Charles C., Knox.
Kahle, Dana, Knox.
Kahle, Harold H., Leeper.
Keeler, Richard S., St. Petersburg.
Keller, W. C., New Bethlehem.
Lackey, Sylvester J., Clarion.
McAninch, David Lewis, Lamartine.
Meals, Nelson M., Callensburg.
Miller, John B., Sligo.
Phillips, Franklin Pierce, Clarion.
Rimer, John T., Clarion.
Ross, Charles C., Clarion.
Sayers, Clement E., Hawthorn.
Shumaker, Edgar K., New Bethlehem.
Shumaker, Philip W., New Bethlehem.
Stute, John E., Parkers Landing (Arms. Co.).
Summerville, Harvey B., Rimersburg.
Summerville, John F., Monroe.
Walker, Byron P., West Monterey.
Wallace, Wilbur S., East Brady.
Wilson, Benjamin G., Clarion.
Woods, George B., Curllsville.

CLEARFIELD COUNTY SOCIETY

(Organized Sept. 27, 1864. Chartered May 8, 1894.)

President...A. D. Cowdrick, Clearfield.
V. Pres.....H. A. Blair, Curwensville.
H. A. Woodside, Lumber City.
Sec.-Treas..J. M. Quigley, 922 Dorey St., Clearfield.
Ed.-Rept....J. Paul Frantz, 213 N. 2d St., Clearfield.
Censors.....G. E. Mauk, Woodland, 1 yr.
H. A. Woodside, Lumber City, 2 yrs.
G. B. Kirk, Kylertown, 3 yrs.
Committee on Public Policy and Legislation:
S. J. Waterworth, Clearfield.
W. B. Henderson, Philipsburg.
W. E. Reiley, Clearfield.
Committee on War Fund:
S. D. Bailey, Clearfield.
J. W. Gordon, Clearfield.
S. J. Waterworth, Clearfield.
J. M. Quigley, Clearfield.

Stated meetings second Wednesday of each month at various places in the county. Election of officers in January.

MEMBERS (61)

Ake, Nicholas F. K., Curwensville.
Andrews, Warren W., Philipsburg (Center Co.).
Bailey, Samuel D., Clearfield.
Blair, H. Albert, Curwensville.
Brockbank, John I., Dubois.
Browne, William C., Burnside.
Cornely, James M., Madera.
Cowdrick, Arthur D., 108 N. Second St., Clearfield.
Dale, John, Philipsburg (Center Co.).
Dale, Wallace H., Houtzdale.
Derick, Alma Read, Bellwood (Blair Co.).
Dinger, Michael C., Morrisdale.
Erhard, Elmer S., New Millport.
Fiscus, James H., Boardman.
Flegal, Irwin Scott, Karthaus.
Frantz, J. Paul, 213 N. Second St., Clearfield.
Gann, George Willard, 42 W. Long Ave., Dubois.
Ginter, James E., McEwen Bldg., Dubois.
Gordon, John W., 206 Locust St., Clearfield.
Harman, L. Cooper, Philipsburg (Center Co.).
Harper, Francis Watts, Irvona.
Harshberger, Joseph W., Kylertown.
Hayes, Senes E., Byrnedale (Elk Co.).
Henderson, James L., Osceola Mills.
Henderson, William B., Philipsburg (Center Co.).
Henritzy, Oscar E., Winburne.
Hoke, Bradley H., Meyersdale (Somerset Co.).
Houck, Earl E., Dubois.
Jackson, Robert, Osceola Mills.
Jenkins, George C., 702-6 State St., Curwensville.
Jones, Evan L., Philipsburg (Center Co.).
King, Hiram O., Curwensville.
Kirk, George B., Kylertown.
Lewis, Homer H., Surveyor.
Lynn, Austin C., 604 S. Second St., Clearfield.
McGirk, Charles E., Philipsburg (Center Co.).
Mauk, George Edmund, Woodland.
Miller, Frank Klare, Madera.
Miller, James A., Grampian.
Miller, Summerfield J., Madera.
Morris, Samuel J., Boardman.
Patterson, Floyd G., Box 411, Dubois.
Piper, William S., 210 N. Second St., Clearfield.
Quigley, John M., 922 Dorey St., Clearfield.
Quinn, Luther W., Box 273, Dubois.
Reiley, William E., 10 Front St., Clearfield.
Ricketts, George Allen, Osceola Mills.
Rowles, J. Frank, Mahaffey.
Rowles, Lewis G., Second and Pine Sts., Clearfield.
Shivery, George B., Woodland.
Smathers, Wilson J., 6-8 S. Main St., Dubois.
Stewart, Lever F., 108 N. Second St., Clearfield.
Sullivan, John C., Dubois.
Thompson, Harry H., Philipsburg (Center Co.).
Waterworth, Samuel J., Second and Cherry Sts., Clearfield.
White, Inman H., Houtzdale.
Williams, Richard Lloyd, Houtzdale.
Wilson, Ward O., 210 N. Second St., Clearfield.
Woodside, Harry A., Lumber City.
Woodside, Horatio L., Bigler.
Yeaney, Gillespie B., 104 S. Second St., Clearfield.

CLINTON COUNTY SOCIETY

(Organized 1866. Reorganized 1883.)

President...Percy McDowell Tibbins, Beach Creek.
V. Pres.....James Louis Lubrecht, Lock Haven.
Sec.-Treas..R. B. Watson, Lock Haven.
Censors.....Francis P. Ball, Lock Haven.
Luther M. Holloway, Salona.
William E. Welliver, Lock Haven.
Committee on Public Policy and Legislation:
Charles L. Fullmer, Renovo.
Theodore E. Teah, Lock Haven.

Stated meetings in Lock Haven Hospital the fourth Friday of each month at 8 p. m. Election of officers in January.

MEMBERS (24)

Ball, Francis P., Lock Haven.
Corson, Joseph M., Chatham Run.
Critchfield, John B., Lock Haven.
Dumm, John M., Mackeyville.
Dwyer, Francis P., Renovo.
Fullmer, Charles L., Renovo.
Green, George D, Lock Haven.
Holloway, Luther M., Salona.
Kirk, Clair B., Mill Hall.
Liken, Loyal L., Port Matilda (Center Co.).
Lubrecht, James Louis, Lock Haven.
McGhee, Saylor J., 214 W. Main St., Lock Haven.
Mahr, Irving O., Logantown.
Mervine, Graydon D., 204 W. Main St., Lock Haven.

Moorehouse, William G., 23 S. West End Ave., Lancaster (Lancaster Co.).
Painter, Allen B., Mill Hall.
Roach, Thomas E., Renovo.
Rosser, Orrin H., Renovo.
Shoemaker, William J., Lock Haven.
Teah, Theodore E., 103 W. Main St., Lock Haven.
Tibbins, Joseph E., Beech Creek.
Tibbins, Perry McDowell, Beach Creek.
Watson, Robert B., Lock Haven.
Welliver, William E., Lock Haven.

COLUMBIA COUNTY SOCIETY

(Organized June 31, 1858.)

President...Isaac E. Patterson, Benton.
V. Pres.....J. Sidney Hoffa, Benton.
Sec.-Treas.
and Rept...Luther B. Kline, Catawissa.
Librarian...John W. Bruner, Bloomsburg.
Censors.....T. C. Harter, Bloomsburg.
J. T. Macdonald, Bloomsburg.
J. R. Montgomery, Bloomsburg.
Committee on Public Policy and Legislation:
J. W. Bruner, Bloomsburg.
E. L. Davis, Berwick.
B. F. Sharpless, Catawissa.
Scien. Prog. C. K. Albertson, Benton.
J. S. Hoffa, Benton.
I. E. Patterson, Benton.

Stated meetings second Thursday of each month, at Bloomsburg, in March, June, September and December; at Berwick in February, May, August and November; at Catawissa in January, April and October; at Benton in July. Election of officers in December.

MEMBERS (45)

Albertson, Charles K., Benton.
Alleman, Emanuel A., Berwick.
Altmiller, Charles F., Bloomsburg.
Arment, Samuel B., Bloomsburg.
Bierman, Henry, 38 W. Fourth St., Bloomsburg.
Brobst, Jacob R., Bloomsburg.
Brown, J. Jordan, Bloomsburg.
Bruner, John W., Bloomsburg.
Buckingham, Harry S., Berwick.
Carl, Allen Vincent, Numidia.
Christian, Howard S., Millville.
Clark, Frank R., Berwick.
Cohen, Joseph, Berwick.
Davis, Edward L., Berwick.
Drum, George F., Mifflinville.
Follmer, George Elmer, Bloomsburg.
Gardner, Benjamin Franklin, Bloomsburg.
Gemmell, John Michael, Millville.
Glenn, Edwin A., Berwick.
Gordner, Jesse W., Jerseytown.
Harter, Theodore C., Bloomsburg.
Hensyl, William C., Berwick.
Hess, J. Bruce, Benton.
Hoffa, J. Sidney, Benton.
John, J. Stacey, Bloomsburg.
Kline, Luther B., Catawissa.
Macdonald, John T., Bloomsburg.
Miller, Ralph E., Bloomsburg.
Montgomery, James R., Jr., Bloomsburg.
Montgomery, James R., Sr., Bloomsburg.
Patterson, Isaac E., Benton.
Pfahler, J. Fred, Berwick.
Robbins, Clifton Z., Bloomsburg.
Sharpless, Benjamin F., Catawissa.
Shuman, Ambrose, Catawissa.
Shuman, J. Elmer, Bloomsburg.
Shuman, George A., 545 Main St., Edwardsville (Luzerne Co.).
Steck, Charles T., Berwick.
Vance, William T., Orangeville.
Vastine, J. Marion, Catawissa.
Wagenseller, James K., Bloomsburg.
Warntz, Ralph E., Nescopeck (Luzerne Co.).
Wintersteen, John C., Bloomsburg.
Wolf, Isaac R., Espy.
Yost, Charles B., Bloomsburg.

CRAWFORD COUNTY SOCIETY

(Organized 1867.)

President...J. K. Roberts, Meadville.
V. Pres.....R. W. Clark, Venango.
Sec.-Treas.
and Rept..C. C. Laffer, Meadville.
Censors.....G. E. Humphrey, Cambridge Springs.
W. H. Quay, Townville.
J. R. Mosier, R. D. 2, Meadville.
Committee on Public Policy and Legislation:
J. K. Roberts, Chairman, Meadville.
W. G. Johnston, Titusville.
J. L. Axtell, Cochranton.
Prog. Com..H. C. Winslow, Meadville.
M. B. Best, Meadville.
O. H. Jackson, Meadville.
D. C. Mock, Cambridge Springs.

Stated meetings the first Wednesday of each month, except July, at 1:30 p. m., in the Chamber of Commerce, Meadville. Election of officers in January.

MEMBERS (52)

Axtell, John L., Cochranton.
Best, Margaret Blanche, Meadville.
Brophy, Edwin E., Meadville.
Brush, Harry L., Conneaut Lake.
Campbell, Mary M., Meadville.
Carpenter, Meade C., Linesville.
Clark, Robert W., Venango.
Clawson, Frank A., Meadville.
Clouse, Arne Wilbur, Geneva.
Cowan, Walter H., Moisertown (Saegerstown, R. D. 3).
Daniels, Henry M., Woodcock.
Dickey, Samuel J., Conneautville.
Eiler, V. Burton, Titusville.
Ellison, George W., Townville.
Ferer, Charles K., Meadville.
Gamble, R. Bruce, Meadville.
Gamble, William M., Little Cooley.
Greenfield, Robert M., Penn Line.
Hamaker, Winters D., Hollywood Blvd., Los Angeles, Calif.
Hazen, Carl M., Titusville.
Hazen, Sylvester F., Hartstown.
Hayward, George Ernest, Meadville.
Hildred, Herbert Howard, Titusville.
Hill, Clarence C., Meadville.
Humphrey, Glennis E., Cambridge Springs.
Hyskell, William E., Meadville.
Jackson, Oliver H., Meadville.
Jameson, Hugh, Titusville.
Johnston, William G., Titusville.
Laffer, Cornelius C., Meadville.
Lewis, Frank L., Atlantic.
Little, Theodore A., Corry (Erie Co.).
Logan, James A., Cambridge Springs.
Logan, James Clark, Titusville.
McFate, J. Charles, Meadville.
Mock, David C., Cambridge Springs.
Mosier, J. Russell, R. D. 2, Meadville.
Nisbet, Frederick L., Meadville.
Quay, William H., Jr., Townville.

Roberts, John K., Meadville.
Rumsey, Frank M., Conneautville.
Shaffer, William Walter, Meadville.
Skelton, William B., Meadville.
Smith, Rodney S., Saegerstown.
Snodgrass, David G., Meadville.
Thomas, George D., 742 North Park Ave., Meadville.
Thompson, Charles Wesley, Meadville.
Walker, Herman H., Linesville.
Walker, James N., Linesville.
Williams, Clyde L., Harmonsburg.
Wilson, Joseph C., Titusville.
Winslow, Harry C., 883 Water St., Meadville.

CUMBERLAND COUNTY SOCIETY

(Organized July 17, 1866.)

President...Henry C. Lawton, Camp Hill.
V. Pres.....Selden S. Cowell, Huntsdale.
Newton W. Hershner, Mechanicsburg.
Rec. Sec....C. R. Rickenbaugh, Carlisle,
Cor. Sec.
and Rept....Harry A. Spangler, Carlisle.
Treasurer...Ambrose Peffer, Carlisle.
Censors.....Philip R. Koons, Mechanicsburg.
John W. Bowman, Lemoyne.
Committee on Public Policy and Legislation:
S. Dana Sutliff, Shippensburg.
William S. Ruch, Carlisle.
Samuel E. Mowery, Mechanicsburg.

Stated meetings second Tuesday of January, April, July and October; the January meeting at Carlisle; the place of the other meetings to be determined by vote of the society or on invitation. Election of officers in January.

MEMBERS (35)

Bashore, Harvey B., West Fairview.
Beale, John E., Lemoyne.
Bowman, John W., Lemoyne.
Cadwallader, Seth I., West Fairview.
Cowell, Selden Sylvester, Huntsdale.
Dougherty, Milton M., Mechanicsburg.
Fralic, Harry B., Mt. Holly Springs.
Hershner, Newton W., Mechanicsburg.
Hudson, Elmer A., Carlisle.
Irwin, George G., Mt. Holly Springs.
Koons, Philip R., Mechanicsburg.
Lawton, Henry C., Camp Hill.
Lee, Hildegard Langsdorf, Carlisle.
Lefever, Enos K., 630 S. Hanover St., Carlisle.
McBride, Thomas S., Shippensburg.
McCreary, J. Bruce, Shippensburg.
Meily, Harry S., Carlisle.
Mowery, Samuel E., Mechanicsburg.
Peffer, Ambrose, Carlisle.
Peters, Milton R., Boiling Springs.
Peters, William E., Carlisle.
Plank, Edward R., Carlisle.
Preston, Thomas Walbank, Carlisle, R. D. 1.
Rickenbaugh, Calvin R., Carlisle.
Ruch, William S., Carlisle.
Shepler, R. McMurran, Carlisle.
Shoemaker, Ferdinand, U. S. Indian Service, Washington, D. C.
Smith, Henry Albert, Mechanicsburg.
Spangler, Harry A., Carlisle.
Spangler, Jacob B., Mechanicsburg.
Stoey, Oliver P., Newville.
Sutliff, S. Dana, Shippensburg.
Van Camp, David W., Plainfield.
Wagoner, Parker W., Carlisle.
Zimmerman, George L., Carlisle.

DAUPHIN COUNTY SOCIETY

(Organized 1868.)

(Harrisburg is the postoffice when street address only is given.)

President...Jesse L. Lenker, 232 State St.
V. Pres.....Earle Rodgers Whipple, Steelton.
Sec.-Treas...George B. Stull, 217 Woodbine St.
Reporter....Marion W. Emrich, 1426 Market St.
Trustees....J. E. Dickinson, 228 N. 2d St.
Clarence R. Phillips, 1646 N. 3d St.
H. Hershey Farnsler, 1438 Market St.
Censors.....David S. Funk, 300 State St.
Harvey F. Smith, 130 State St.
Charles R. Rebuck, 412 N. 3d St.
Committee on Public Policy and Legislation:
J. Edward Dickinson, 228 N. 2d St.

Regular meetings are held at 8:30 p. m., on the first Tuesday of every month except July and August, at the Harrisburg Academy of Medicine Building, 319 N. Second St., Library and Reading Room same place. Board of Governors meets last Tuesday of each month at 8:30 p. m. Election of officers in January. The Dauphin Medical Academician issued first of month.

MEMBERS (126)

Arnold, John Loy, 1509 Market St.
Barto, Robert Edwin, Elizabethville.
Batdorf, Claude Wellington, 1622 N. Third St.
Bauder, George W., 1225 N. Second St.
Bishop, William Thomas, 211 Pine St.
Blair, Thomas S., 403 N. Second St.
Bowman, Thomas E., 1541 State St.
Brown, George L., Fort Hunter.
Bryner, John H., Grantham (Cumberland Co.).
Buehler, William S., Elizabethville.
Coble, Aaron C., Dauphin.
Coover, Carson, 223 Pine St.
Coover, Frederick W., 223 Pine St.
Crampton, Charles H., 600 Forster St.
Culp, John F., 410 N. Third St.
Dailey, Gilbert L., 713 N. Third St.
Dapp, Gustave A., 1818 N. Third St.
Darlington, Emerson E., 2025 N. Sixth St.
Deckard, Park A., 709 N. Third St.
Deckard, Percy E., Richfield (Juniata Co.).
DeVenney, John C., 1115 N. Second St.
Dickinson, J. Edward, 228 N. Second St.
Douglas, Henry Rea, 1800 Market St.
Douglass, William T., 1634 Derry St
Ellenberger, John Wesley, 922 N. Third St.
Emrich, Marion W., 1426 Market St.
Evans, William P., Middletown.
Everhart, Edgar S., LeMoyne (Cumberland Co.).
Exley, Maude C., 112 State St.
Fager, John H., Jr., 120 Walnut St.
Farnsler, H. Hershey, 1438 Market St.
Frasier, Lester W., 715 N. Third St.
Fritchey, Charles A., 902 N. Third St.
Funk, David S., 300 N. Second St.
Garfinkle, B. Milton, 1219 N. Second St.
George, Henry William, Middletown.
Goldman, Louis C., 710 N. Sixth St.
Good, John F., Fourth and Bridge Sts., New Cumberland (Cumberland Co.).
Goodman, Charlotte E., State Hospital.
Graber, Leon K., 901 N. Second St.
Green, Edward M., Penn. State Lunatic Hospital.
Griest, Andrew Jackson, Steelton.
Gross, Herbert F., 1412 N. Second St.
Hart, Charles V., 226 S. Second St.
Hazen, Merl V., 211 Locust St.
Hetrick, David Joseph, 54 N. Thirteenth St.
Hileman, Joseph B., 413 Market St.
Holmes, Robert E., Eighteenth and State Sts.
Hull, Howard Lane, Camp Hill (Cumberland Co.).

Hursh, Robert McGuigan, 234 State St.
Isenberg, Alfred P., 141 W. Greenwich St., Reading (Berks Co.).
Jackson, Thomas W., 115 Pine St.
James, William T., 1900 N. Sixth St.
Jauss, Christian E., 1323 N. Sixth St.
Jeffers, Benjamin B., 36 N. Front St., Steelton.
Keene, Charles E. L., 1849 Berryhill St.
Kiefer, Walter E., 1221 Seneca St., Buffalo, N. Y.
Kilgore, Frank D., 2011 N. Sixth St.
Kirkpatrick, Samuel A., 200 Third St., New Cumberland (Cumberland Co.).
Klase, Harry E., 1706 Market St.
Kunkel, George B., 118 Locust St.
Lakin, Harry A., 10 S. Twentieth St.
Laverty, George L., 208 Ridgewood Road, Roland Park, Md.
Lawson, Edward Kirby, Penbrook.
Layton, H. M., Jr., 930 W. Sixth St.
Lenker, Jesse L., 232 State St.
McAlister, John B., 234 N. Third St.
McGowan, Hiram, 236 State St.
MacMullen, John W., 1432 Walnut St.
Manning, Charles J., 1519 N. Sixth St.
Middleton, William J., 101 N. Second St., Steelton.
Miller, David I., 1839 N. Sixth St.
Miller, J. Harvey, 19 N. Fourth St.
Mish, George F., Middletown.
Moffatt, Ralph E., 219 N. Second St.
Moffitt, George R., 200 Pine St.
Myers, Hewett C., 232 S. Second St., Steelton.
Newman, Oscar A., 617 Race St.
Nicodemus, Edwin A., 1439 Derry St.
Nissley, Martin L., Hummelstown.
Orth, Henry L., 205 Pine St.
Oxley, James E. T., 8 S. Sixteenth St.
Page, Arthur L., 1315 Derry St.
Peters, Jacob M., 195 S. Front St., Steelton.
Phillips, Clarence R., 1646 N. Third St.
Plank, John R., 106 N. Front St., Steelton.
Rahter, J. Howard, 324 N. Second St.
Raunick, John M. J., 212 Hamilton St.
Rebuck, Charles S., 412 N. Third St.
Reckord, Frank F. D., 220 Kelkes St.
Rickert, Charles M., 2423 N. Sixth St.
Ridgway, Richard Frederick L., Pouch A, Penn. State Hospital.
Ritchie, Melanchton M., 36 S. Thirteenth St.
Ritzman, Allen Z., 812 N. Sixth St.
Romberger, Floyd T., Elizabethville.
Russell, W. Stewart, 242 Main St., Steelton.
Saul, Charles H., 30 Locust St., Steelton.
Shaffer, Harry A., Williamstown.
Shaffer, Joseph Wright, 231 Forster St.
Shenk, Frank L., Linglestown.
Shepler, Norman Bruce, 711 N. Third St.
Sherger, John A., 1809 N. Sixth St.
Shope, Jacob W., 32 S. Thirteenth St.
Smith, B. Frank, 1601 Market St.
Smith, Frederick C., Halifax.
Smith, Harvey F., 130 State St.
Snyder, Charles R., Marysville (Perry Co.).
Stauffer, Charles C., 1516 N. Second St.
Stine, Harvey A., Sixteenth and Berryhill Sts.
Strode, George K., State Dept. of Health.
Stull, George B., 217 Woodbine St.
Swiler, Robert D., 1331 Derry St.
Taylor, Louise H., 1800 N. Third St.
Traver, Samuel N., 128 Locust St.
Treiman, George A., 721 N. Sixth St.
Trullinger, Charles I., 2022 N. Sixth St.
Ulrich, Marion, 139 Center St., Millersburg.
Weirick, Ernest Charles, Enola (Cumberland Co.).
West, William H., 1801 Green St.
Whipple, Earle Rogers, 210 S. Second St., Steelton.
Widder, George H., 1244 Derry St.
Wintersteen, Grace, State Hospital.
Wolford, Martin L., 328 Chestnut St.
Wright, William E., 206 State St.
Zimmerman, George A., 1407 Market St.
Zimmerman, J. Landis, Hershey.

DELAWARE COUNTY SOCIETY

(Organized May 30, 1850.)

(Chester is the postoffice when street address only is given.)

President...C. I. Stiteler, Fifth and Welsh Sts.
V. Pres.....D. J. Monihan, 9th St. and Morton Ave.
George H. Cross, 525 Welsh St.
Sec.-Treas..W. E. Egbert, 601 E. 13th St.
Librarian...C. B. Shortlidge, Lima.
Reporter....Adam J. Simpson, 401 E. 12th St.
Censors.....J. H. Fronfield, Media.
Katharine Ulrich, 413 E. 9th St.
D. J. Monihan, 9th St. and Morton Ave.
Committee on Public Policy and Legislation:
A. J. Simpson, 401 E. 12th St.
J. H. Fronfield, Media.
D. J. Monihan, 9th St. and Morton Ave.
Exec. Com..C. I. Stiteler, Fifth and Welsh Sts.
W. E Egbert, 601 E. 13th St.
H. M. Armitage, 401 E. 13th St.

Stated meetings the third Thursday of each month at 3:30 p. m. at Chester Hospital unless otherwise directed. Election of officers in January.

MEMBERS (89)

Armitage, George L., Jr., Chester.
Armitage, Harry M., 401 E. Thirteenth St.
Arnold, Clifford H., 301 W. Seventh St.
Bartleson, Henry C., Lansdowne.
Bing, Edward W., Second and Norris Sts.
Boice, Ervrit S., Moores.
Brown, Ellen, 714 Madison St.
Bryant, F. Otis, 500 E. Broad St.
Bullock, Edwin C., Upland.
Campbell, Ethan A., Ridley Park.
Crist, John O., Chester.
Cross, George H., 525 Welsh St.
Crothers, George F., Marcus Hook.
Crothers, Samuel Ross, 415 E. Ninth St.
Darlington, Horace H., Concordville.
Dick, H. Lenox H., Darby.
Dickeson, Morton P., Media.
Donahoo, Harry C., 511 Kerlin St.
Dooling, Henry C., Norwood.
Dunn, Joseph F., Third and Lloyd Sts.
Dunn, Louis S., 2409 W. Third St.
Easby, Alice Rogers, 23 E. Second St., Media.
Egbert, Walter E., 601 E. Thirteenth St.
Emery, Walter V., 1137 Edgmont Ave.
Evans, Fred H., 216 W. Fourth St.
Evans, William B., Chester.
Evans, William Knowles, Chester.
Eynon, John Schofield, Eighth and Kerlin Sts.
Feddeman, Charles E., 405 E. Thirteenth St.
Forwood, Jonathan Larkin, Fifteenth St. and Edgmont Ave.
Fronfield, J. Harvey, Media.
Gallagher, Harry, Ninth and Barclay Sts.
Gottschalk, Leon, Marcus Hook.
Gray, Joseph R. T., Jr., City Hall.
Gray, Stoddard P., 1925 W. Third St.
Hammond, William, Glenolden.
Hiller, Hiram M., Ninth and Parker Sts.
Hitchens, Arthur Parker, Glenolden.
Hoskins, John, 2414 Edgmont Ave.
Howell, Elizabeth W., 26th and Chestnut Sts.
Hughes, George M., Eighth and Madison Sts.
Hunlock, Fred S., 514 Parker Ave., Collingdale.

Janvier, George Victor, 30 Runnymede Ave., Lansdowne.
Johnston, Frank E., Moores.
Kalbach, I. Irwin, Glen Riddle.
Keating, Peter McCall, Wawa.
Kilduffe, Robert, Jr., Chester.
Lambichi, Marika E., 319 E. Broad St.
Landry, Walter A., 809 Madison St.
LaShelle, Charles L., Lenni Mills.
Lehman, William F., 2124 W. Third St.
Lithgow, William D., Seventh and Barclay Sts.
Loughead, Raymond B., 2216 W. Third St.
Lyons, J. Chalmers, Marcus Hook.
Maison, Robert S., 521 W. Seventh St.
Monihan, Daniel J., Ninth St. and Morton Ave.
Morton, Alexander R., Morton.
Mullison, G. Bigelow, 1408 E. Thirteenth St.
Neufeld, Maurice A., 407 E. Ninth St.
Nothnagle, Frank R., Chester.
Orr, Adrian V. B., 408-9 Crozer Bldg.
Parsons, Isaac I., Media.
Pike, Perry Coyington, 25 W. State St., Media.
Poulson, William W., Marcus Hook.
Powell, Ralph E., 106 Post Road, Marcus Hook.
Pyle, Jerome L., Glen Mills.
Raiman, William A., Swarthmore.
Reynolds, Victor M., Darby.
Roberts, James E., Lansdowne.
Roxby, John Byers, 110 Cornell Ave., Swarthmore.
Schott, Charles H., Media.
Sherman, Jeannette H., Ridley Park.
Shortlidge, Charles B., Lima.
Sickel, George B., 2220 Prov. Ave.
Simpson, Adam J., 401 E. Twelfth St.
Smith, Norman D., Rutledge.
Stanton, Herbert C., Clifton Heights.
Starbuck, J. Clinton, Media.
Stiteler, C. Irvin, Fifth and Welsh Sts.
Taylor, H. Furness, Ridley Park.
Trimble, Samuel, Lima.
Ulrich, Katherine, 413 E. Ninth St.
Usett, Albert L., 712 W. Third St.
Webster, George C., Jr., 311 W. Seventh St.
Weidner, Frances, 26th and Chestnut Sts.
West, Harmon, 60 Winona Ave., Norwood.
White, Amy E., 807 Madison St.
Wolfe, A. Chester, Ridley Park.
Wood, J. William, 219 E. Fifth St.

ELK COUNTY SOCIETY

(Organized 1881.)

President...R. P. Heilman, Emporium.
V. Pres.....George M. Hutchison, Dagus Mines.
Secretary...Maurice T. Leary, Ridgway.
Treasurer...M. M. Rankin, Ridgway.
Committee on Public Policy and Legislation:
John C. McAllister, Ridgway.
Samuel G. Logan, Ridgway.
Clarence G. Wilson, St. Marys.

Stated meetings at 1 p. m. the second Thursday of each month at Ridgway. Election of officers in January.

MEMBERS (25)

Barratt, Stanley, Wilcox.
Beale, Bertram A., Dubois (Clearfield Co.).
Black, Walter M., St. Marys.
Bush, Walter H., Emporium (Cameron Co.).
Davis, Arthur F., St. Marys.
Earley, Francis G., Ridgway.
Falk, Harry S., Emporium (Cameron Co.).
Flynn, James G., Ridgway.
Heilman, Russell P., Emporium (Cameron Co.).
Hutchison, George M., Dagus Mines.
Leary, Maurice T., Ridgway.
LeVan, Jacob K., Carlisle (Cumberland Co.).
Logan, Samuel G., Ridgway.
McAllister, John Craig, Ridgway.
Madara, Joseph E., St. Marys.
Mullhaupt, Alfred, St. Marys.
Palmer, William R., Johnsonburg.
Rankin, Michael M., Ridgway.
Russ, Eben J., St. Marys.
Rutherford, James E., Ridgway.
Sharp, Eugene B., Johnsonburg.
Shaw, Walter C., Ridgway.
Smith, Henry H., Johnsonburg.
Warnick, John W., Johnsonburg.
Wilson, Clarence G., St. Marys.

ERIE COUNTY SOCIETY

(Reorganized June 25, 1895.)

(Erie is the postoffice when street address only is given.)

President...Edward Cranch, 813 Sassafras St.
V. Pres.....Katherine H. Law Wright, 247 West Eighth St.
John A. Darrow, 106 W. Ninth St.
Sec.-Ed.....B. Swayne Putts, 143 West Eighth St.
Treasurer...Hugh M. Moorhead, 804 Peach St.
Reporter....A. Girard Cranch, c/o Gen. Electric Co.
Librarian...Fred E. Ross, 154 West Eighth St.
Censors.....H. E. Griswold, 116 West Eighth St.
A. Ford Eastman, Masonic Temple.
O. N. Chaffee, 820 Sassafras St.
Committee on Public Policy and Legislation:
D. H. Strickland, 153 West Seventh St.
J. W. Wright, 247 West Eighth St.
F. A. Walsh, 128 West Seventh St.
Ira J. Dunn, Harbour Creek.
J. L. Heard, North East.

Stated meetings in the Library Building, Erie, the first Tuesday of each month at 8:30 p. m. Election of officers in January.

MEMBERS (116)

Ackerman, John, 134 West Seventh St.
Allen, Oakley A., 1319 West Ninth St.
Andrews, William K., 203 West Eighth St.
Barkey, Peter, 130 West Ninth St.
Barrett, George T., 341 East Tenth St.
Barrett, Martin C., 734 West Eighth St.
Beck, Frank William, 408 East Sixth St.
Bednarkiewicz, Ignatius A., 602 East Twelfth St.
Bell, John J., 110 West Ninth St.
Boughton, Guy C., 810 Peach St.
Bunshaw, Albert H., 1204 West Twenty-first St.
Cameron, Alexander C., 11 West Eighth St.
Cardot, Cassius M., 315 East Eighth St.
Chaffee, Orel N., 820 Sassafras St.
Chidester, Charles B., 219 West Eighteenth St.
Cranch, A. Girard, c/o General Electric Co.
Cranch, Edward, 813 Sassafras St.
Croop, J. Elmer, 628 East Sixth St.
Darrow, John Allison, 106 West Ninth St.
Dasher, J. Howard, 113 East Sixth St.
Davis, Arthur G., 1019 East Ave.
Dennis, David N., 221 West Ninth St.
Dennis, Edward, 311 West Tenth St.
DeTuerck, John K., 261 East Eighth St.
Dickinson, George S., 140 West Eighth St.
Douville, Jeffrey C., North East.
Drake, J. C. Merle, 720 Sassafras St.
Drozeski, Edward H., 117 East Sixth St.
Dunn, Harrison A., 230 West Eighth St.
Dunn, Ira J., Harbour Creek.
Eastman, Anstice Ford, Masonic Temple.
Fisher, Fred, Jr., 324 East Sixth St.

Flynn, T. M. M., 801 German St.
Foringer, Henry H., Pa. S. & S. Home.
Galster, Herman C., 129 West Twenty-fifth St.
Ghering, Harold A., Edinboro.
Gillette, N. Troy, Corry.
Gleeten, Scott D., 822 West Tenth St.
Graham, Vern W., Linesville (Crawford Co.).
Griswold, Homer E., 116 West Eighth St.
Hall, Friend L., 234 West Eighteenth St.
Hart, Fred C., Girard.
Heard, Corydon F., 402 Masonic Temple.
Heard, James L., North East.
Henry, Ralph E., 240 West Eighteenth St.
Hess, Elmer, 501 Commerce Bldg.
Howe, Jesse Burket, 932 Peach St.
Humphrey, William J., Union City.
Irwin, Jeremiah S., 638 West Eighteenth St.
Jackson, DeWitt, 232 West Eighth St.
Johnson, Philip T., 139 East Sixth St.
Kemble, Charles C., 146 West Ninth St.
Kendall, Eugene E., Waterford.
Kern, Rudolph A., 1015 West Eighth St.
Kramer, Daniel W., 920 East Twenty-first St.
Krimmel, Frank B., 361 East Sixth St.
Krum, Astley G., 163 West Eighteenth St.
Law-Wright, Katherine Hays, 247 West Eighth St.
Lefever, Clarence H., 507 West Eleventh St.
Lewinson, Bella, 321 East Eighth St.
Lick, Maxwell, 149 West Eighth St.
Lininger, Carl B., 517 East Ave.
Lloyd, John H., R. D., Erie.
Luke, Ray R., 4108 Iroquois Ave.
Lyons, Harry Eugene, 613 W. Twenty-sixth St.
McCallum, Chester H., 219 West Eighth St.
McCallum, Malcolm J., 133 West Ninth St.
McCarthy, Frank P., 147 East Fourth St.
McCune, Charles E., East Springfield.
McNeil, Charles A., 136 East Eighteenth St.
Manzanowski, Melshive M., 611 East Fourteenth St.
Miller, Adelbert B., North Girard.
Miller, Richard O., 420 West Eighth St.
Moorhead, Hugh M., 804 Peach St.
O'Donnell, John J., 2420 Parade St.
Parsons, Percy P., 1017 West Tenth St.
Peters, C. O., Albion.
Peters, Joel M., Albion.
Pfadt, James J., 715 West Twenty-sixth St.
Purcell, Thomas, 716 Sassafras St.
Putnam, Burton H., North East.
Putts, B. Swayne, 143 West Eighth St.
Ray, George S., 153 West Eighth St.
Reed, George A., 122 West Twenty-first St.
Reinoehl, David V., 139 West Tenth St.
Ross, Fred E., 154 West Eighth St.
Roth, Augustus H., 110 West Ninth St.
Roueche, William H., 226 West Eighth St.
Rutherford, J. Frank, Cranesville.
Schlindwein, George Wm., 138 West Ninth St.
Schrade, Anna M., 716 Sassafras St.
Shreve, Owen M., 162 West Eighth St.
Shultz, Abner W., 923 Church St., Lebanon (Lebanon Co.).
Silliman, James E., 137 West Eighth St.
Smith, A. Louis, Corry.
Stackhouse, Joseph A., 326 Sassafras St.
Steadman, H. R., 529 East Sixth St.
Steinberg, Edward I., 129 West Eighth St.
Stilley, Jesse C., 325 Dunn St.
Stoney, George F., 746 East Sixth St.
Strickland, Charles G., 153 West Seventh St.
Strickland, David H., 153 West Seventh St.
Strimple, J. Thurman, 420 East Eleventh St.
Stroble, Walter G., 359 East Sixth St.
Studebaker, George M., 426 East Tenth St.
Tannehill, Joseph K., Girard.
Thompson, Ross W., Wesleyville.
Tredway, Thomas Palmer, 233 West Eighth St.
Trippel, F. A., Erie.
Umburn, LeRoy, Albion.
Walsh, Frank A., 128 East Seventh St.
Washabaugh, William B., 253 West Eighth St.
Weibel, Elmer G., 125 West Eighth St.
Wishart, Hagar MacLean, North East.
Woodruff, Row O., Waterford.
Wright, John W., 247 West Eighth St.

FAYETTE COUNTY SOCIETY

(Organized May 18, 1869.)

(Connellsville is the postoffice when street address only is given.)

President...S. H. Baum, Uniontown.
V. Pres.....H. J. Bell, Dawson.
C. W. Conn, York Run (Uniontown, R. D. 5).
Secretary...George H. Hess, Uniontown.
Treasurer...H. J. Nixon, Uledi.
Censors.....H. C. Hoffman, Box 754.
Eben R. Ingraham, Masontown.
Exec. Com..S. H. Baum, Uniontown.
Geo. H. Hess, Uniontown.
James E. Van Gilder, Uniontown.

Regular meetings shall be held the first Thursday of each month in Rainey Club Room, Second Floor, Adams Building, Morgantown St., Uniontown.

MEMBERS (120)

Adams, Charles W., Uniontown.
Altman, Owen R., Uniontown.
Bailey, William J., Box 817.
Baltz, Samuel A., Uniontown.
Baum, Simon H., Uniontown.
Bell, Harry J., Dawson.
Bierer, Charles D., Uniontown.
Brady, Harry, Grays Landing.
Brooks, Don D., 408 S. N. Bank Bldg.
Brown, Henry Stanley, Adah.
Burchinal, Lowry N., Point Marion.
Carothers, J. Richard, Waltersburg.
Carroll, James Basil, Dunbar, R. D. 32.
Chapman, Daniel A., Republic.
Cloud, Milton H., Masontown.
Cockran, James L., 132 South Pittsburgh St.
Cogan, Jesse F., Dawson.
Colborn, Andrew J., 131 North Pittsburgh St.
Coll, Hugh J., Box 635.
Conn, Clyde W., Uniontown, R. D. 5.
Crawford, W. B., Union St., Brownsville.
Crow, Arthur E., Uniontown.
Cunningham, Daken W., Fairchance.
Davidson, Carlton H., New Salem.
Dick, Paul G., Colonial Apts.
Dixon, John C., 118 West Apple St.
Doran, Benjamin P., Uniontown.
Douglas, Edward Wark, 130 West Crawford Ave.
Dowds, Samuel C., Dunbar.
Eddy, Alexander L., Greensboro (Greene Co.).
Edie, Elliott B., 308 First Natl. Bank Bldg.
Evans, George O., Uniontown.
Fosselman, Don C., Connellsville.
Fox, Gilbert G., Newell.
Francis, Thomas R., 223 East Apple St.
Frankenburger, W. Sturgis, Carmichaels (Greene Co.).
Gallagher, George W., 117 North Sixth St.
Gordon, John W., Belle Vernon.
Graham, Charles R., Brownsville.
Gribble, Russell T., Fairchance.
Griffin, George H., Uniontown.
Guiher, Horace B., Smithfield.
Hackney, Jacob S., Uniontown.
Hagan, Arthur S., 54 South Gallatin Ave., Uniontown.

Hall, Herbert E., Natl. Bank of Fayette Co. Bldg., Uniontown.
Hansel, George B., Fayette City.
Hazlett, Jesse H., Vanderbilt.
Heath, Robert E., Fairchance.
Herrington, L. R., New Salem.
Hess, George H., Uniontown.
Hibbs, Samuel E., Uniontown.
Hoffman, Harry Clyde, Box 754.
Hoover, Freeman S., Brownsville.
Hopwood, George B., Chestnut Ridge.
Hopwood, William Henry, Smock.
Hunger, A. C., Point Marion.
Ingraham, Eben R., Masontown.
Jackson, James Marcus, New Salem.
Jackson, John D., 210 East Crawford Ave.
Jeffrey, Robert Harrison, Box 1041, Uniontown.
Johnson, Chester B., Mt. Braddock.
Johnson, L. Dale, Ohiopyle.
Junk, James L., 104 Meadow Lane.
Kerr, J. French, 115 East Fairview Ave.
Kidd, Alexander R., 402 S. N. Bank Bldg.
Kimmel, William S., Republic.
LaClair, Charles H., 24 Church St., Uniontown.
Lang, George W., Alicia.
Larkin, Martin J., Brier Hill.
Larkin, Peter A., Uniontown.
Lilley, Wilbur M., Brownsville.
Lowe, David Earl, New Salem.
Luman, Clark M., Uniontown.
Lyon, Samuel E., Mt. Braddock.
McAninch, John V., Alicia.
McCombs, Edgar A., 345 North Pittsburgh St.
McCormick, Louis P., 201 S. N. Bank Bldg.
McCracken, Jesse L., Smithfield.
McDaniel, Robert A., Connellsville.
McDonald, George F., 22 Market St., Brownsville.
McHugh, William A., Uniontown.
McKee, Robert S., 414 South Ninth St.
Martin, Ralph S., Star Junction.
Meachem, John J., Masontown.
Means, William H., Percy.
Messmore, Harry Benjamin, Brownsville.
Messmore, John Lindsey, Masontown.
Messmore, Walter T., Hillcoke.
Meyers, W. T., Uniontown.
Nixon, James Holbert, Uledi.
Noon, Milton A., Everson.
Odbert, Arthur Keys, Brownsville.
O'Neil, Andrew, Uniontown.
Opinsky, Andrew G., Uniontown.
Osborn, Wilkins William, Upper Middletown.
Owen, Ebenezer S. B., Point Marion.
Parshall, James W., Uniontown.
Patterson, William P., Fairchance.
Peters, Stephen E., Masontown.
Pisula, Vincent Paul, Everson.
Rasely, Edwin R., Uniontown.
Rebok, Harry E., Waltersburg.
Reichard, Lewis N., Brownsville.
Riter, J. F., Uniontown Hospital, Uniontown.
Robinson, George H., Uniontown.
Ryan, Charles C., Republic.
Sangston, D. Hibbs, McClellandtown.
Sangston, James H., McClellandtown.
Sherrick, Earl C., 136 South Pittsburgh St.
Smith, Alfred C., Brownsville.
Smith, Charles H., 93 Morgantown St., Uniontown.
Smith, Peter Franklin, Uniontown.
Steeves, E. W., Republic.
Stollar, Bert Lee, Fayette City.
Sturgeon, John D., Uniontown.
Utts, Charles William, 2 Weihe Bldg.
Van Gilder, James E., Uniontown.
Wagoner, LeRoy C., Brownsville.
Warne, William, Dunbar.
Wells, Edgar K., Masontown.

FRANKLIN COUNTY SOCIETY

(Medical Society of Franklin County. Organized Jan. 4, 1825. Reorganized 1869.)

President...Samuel D. Shull, Chambersburg.
V. Pres.....Joseph P. Maclay, Chambersburg.
LeRoy H. Saxe, Fannettsburg.
Sec.-Rept...John J. Coffman, Scotland.
Asst. Sec. and Treas. Frank N. Emmert, Chambersburg.
Censors.....J. Elmond Kempter, Chambersburg.
Wm. H. Brosius, Mont Alto.
A. Barr Snively, Waynesboro.
Exec. Com..Samuel D. Shull, Chambersburg.
John J. Coffman, Scotland.
T. H. Weagley, Marion.
Committee on Public Policy and Legislation:
John W. Croft, Waynesboro.
John J. Coffman, Scotland.
Samuel D. Shull, Chambersburg.

Stated meetings in Chambersburg the third Tuesday of each month unless otherwise decided. Election of officers in January.

MEMBERS (56)

Amberson, J. Burns, Waynesboro.
Ash, William S., 135 Leicester Ct., Detroit, Mich.
Asper, Guy P., South Main St., Chambersburg.
Bridges, H. C., Blue Ridge Summit.
Brosius, William H., Mont Alto.
Bushey, Franklin A., Greencastle.
Coffman, John J., Scotland.
Coons, Samuel G., Dry Run.
Croft, John W., 152 West Main St., Waynesboro.
Devor, John H., Chambersburg.
Emmert. Frank N., Chambersburg.
Gans, Charles C., Chambers.
Gelwix, John M., Chambersburg.
Gilland, John C., Greencastle.
Gilland, Thomas H., Greencastle.
Gordon, John K., Chambersburg.
Grove, Aaron B., Shady Grove.
Hartzell, Charles A., Fayetteville.
Holland, William E., Fayetteville.
Hoover, Percy D., Waynesboro.
Kauffman, Leslie M., Kauffman.
Kempter, J. Elmond, 150 E. Queen St., Chambersburg.
Kinter, John H., Chambersburg.
Laughlin, Rebecca P., 11 North Thirty-fourth St., Philadelphia.
Maclay, Joseph P., Lincoln Way W., Chambersburg.
McClain, Harry C., Hustontown.
Mayer, John H., 229 South Main St., Chambersburg.
Miley, Harry M., North Main St., Chambersburg.
Mosser, John W., McConnellsburg (Fulton Co.).
Myers, Benjamin F., South Second St., Chambersburg.
Noble, William P., Greencastle, R. D. 5.
Ogle, Charles Clinton, South Main St., Chambersburg.
Palmer, Charles F., East Queen St., Chambersburg.
Peters, Theodore, East Queen St., Chambersburg.
Robinson, Geo. M., McConnellsburg (Fulton Co.).
Ryder, Anna L. B., West Queen St., Chambersburg.
Russell, Ella M., 164 Lincoln Way East, Chambersburg.
Saxe, LeRoy H., Fannettsburg.
Schultz, William C., Waynesboro.
Seaton, Lewis H., Chambersburg.
Shoemaker, David M., Waynesboro.
Shull, Samuel D., North Main St., Chambersburg.
Snively, A. Barr, Waynesboro.
Sollenberger, Aaron B., 102 South Potomac Ave., Waynesboro.
Sowell, George A., Greencastle.
Stewart, Helen M., 164 Lincoln Way East, Chambersburg.
Stofer, M. Webster, Norwich, N. Y.
Swan, James H., St. Thomas.
Swartzwelder, James S., Mercersburg.

Thomas, Samuel B., Waynesboro.
Thrush, Ambrose W., Lincoln Way West, Chambersburg.
Unger, David F., Mercersburg.
Varden, Robert B., Mercersburg.
Weagley, Theodore H., Marion.
White, Thomas D., Orrstown.
Wright, Fairfax G., South Main St., Chambersburg.

GREENE COUNTY SOCIETY

(Organized June 26, 1883.)

President...Thomas B. Hill, Waynesburg.
V. Pres.....T. L. Blair, Waynesburg.
Sec.-Treas..Harry C. Scott, Waynesburg.
Cor. Sec....Robert W. Norris, Waynesburg.
Reporter....R. E. Brock, Waynesburg.
Censors.....Charles W. Spragg, Waynesburg.
Lindsey S. McNeely, Kirby.
Committee on Public Policy and Legislation:
Thomas N. Millikin, Waynesburg.

Stated meetings at Waynesburg the second Tuesday of each month. Election of officers in May.

MEMBERS (21)

Askey, John W., Nemacolin.
Blair, Thomas L., Waynesburg.
Brock, Rufus Edward, Waynesburg.
Coen, John A., Bristoria.
Core, Amanda R., Whiteley.
Day, Clinton H., Clarksville.
Day, Jonathan R., Nineveh.
Hatfield, George W., Mt. Morris.
Hill, Thomas Benton, Waynesburg.
Hoge, Smith A., Rices Landing.
Iams, Samuel H., Waynesburg.
Laidley, Edmund W., Carmichaels.
McNeely, Lindsey S., Kirby.
Millikin, Thomas N., Waynesburg.
Norris, Robert Walton, Waynesburg.
Rice, Homer C., New Freeport.
Scott, Harry Chinsworth, Waynesburg.
Spragg, Charles William, Waynesburg.
Ullom, Frank Sellers, Waynesburg.
Wignet, Stephen E., Waynesburg.
Williams, Samuel T., Waynesburg.

HUNTINGDON COUNTY SOCIETY

(Organized Aug. 14, 1849. Reorganized April 9, 1872.)

(Huntingdon is the postoffice when street address only is given.)

President...H. C. Chisolm, 528 Penn St.
V. Pres.....J. M. Keichline, Petersburg.
Secretary...J. M. Beck, Alexandria.
Treasurer..G. G. Harman, 523 Penn St.
Ed.-Rept....J. M. Beck, Alexandria.
Censors.....R. H. Moore, 205 Penn St.
F. R. Hutchison, 7th and Washington Sts.
C. G. Brumbaugh, 805 Mifflin St.
Committee on Public Policy and Legislation:
John M. Beck, Alexandria.
C. A. R. McClain, Mount Union.
G. G. Harman, 523 Penn St.

Stated meetings at the Huntingdon Club Rooms, Huntingdon, the second Thursday of each month at 2:30 p. m. Election of officers in December.

MEMBERS (33)

Banks, Clark W., Derry (Westmoreland Co.).
Beck, John M., Alexandria.
Bley, Henry, East Mauch Chunk (Carbon Co.).
Brumbaugh, Cloy G., 805 Mifflin St.
Bush, Charles B., 1421 Walnut St., Philadelphia.
Campbell, Charles, Petersburg.
Campbell, Robert B., Box 363, Mount Union.
Campbell, William J., 100 East Penn Ave., Mt. Union.
Chisolm, Henry Clay, 528 Penn St.
Decker, Raymond R., Orbisonia.
Dovey, H. L., U. S. S. Nebraska, New York City.
Duncan, Earl Spence, Tarentum (Alle. Co.).
Fetterhoof, Harry B., 630 Mifflin St.
Frontz, Howard C., 500 Mifflin St.
Green, Edward Houghton, Mill Creek.
Harman, George G., 523 Penn St.
Herkness, John S., 21 East Penn Ave., Mount Union.
Horton, Harold G., Saltillo.
Hutchison, Fred R., Seventh and Washington Sts.
Johnston, James M., 813 Mifflin St.
Keichline, John M., Jr., Petersburg.
Koshland, James G., James Creek.
Locke, Howard V., Orbisonia.
McClain, Charles A. Roe, 117 West Shirley St., Mount Union.
Moore, Robert Hall, Trenton, N. J.
Newlin, Gladys Wright, 600 Washington St.
St. Clair, James R., Alexandria.
Schum, Frank L., 322 Penn St.
Sears, William Hardin, 514 Penn St.
Simpson, Fred P., Mapleton Depot.
Simpson, George W., Mill Creek.
Waite, Alvin R., Sixth and Mifflin Sts.
Wilson, Harry C., Warriorsmark.

INDIANA COUNTY SOCIETY

(Organized July 21, 1858.)

President...C. E. Rink, Indiana.
V. Pres.....A. H. Stewart, Indiana.
W. F. Weitzel, Indiana.
Secretary...F. W. St. Clair, Indiana.
Treasurer...M. M. Davis, Indiana.
Reporter...C. P. Reed, Indiana.
Censors....W. C. Widdowson, Black Lick, 3 years.
G. E. Simpson, Indiana, 2 years.
B. F. Coe, Clymer, 1 year.
Committee on Public Policy and Legislation:
Frank F. Moore, Homer City.
William D. Gates, Indiana.
Frank B. Stevenson, Indiana.

Clinics at the Indiana Hospital by the staff physicians, March 12, June 11, November 12, and December 10. Other meetings second Tuesday of each month in Sun Parlor of Indiana House.

MEMBERS (59)

Ansley, William B., Saltsburg.
Baehr, John H., American Hospital, Chicago, Ill.
Bee, Charles H., Marion Center.
Boden, Todd R., R. D., McIntire.
Bushnell, Emerson M., Black Lick.
Buterbaugh, Howard B., Indiana.
Carson, Jason W., Indiana.
Carson, John B., Blairsville.
Clagett, Luther S., Blairsville.
Clark, Albert W., Ernest.
Coe, Benjamin F., Clymer.
Curtis, Kim D., Claghorn.
Davis, Medus M., Indiana.
Dodson, William E., Indiana.
Elkin, John A., Smicksburg.
Everwine, J. Merle, Clymer.
Fisher, James G., Plumville.
Gates, Dunn William, Indiana.
Glasser, James Clair, Dixonville.
Gourley, John C., Windber (Somerset Co.).
Griffith, Wilbert E., Iselin.
Harmon, Clair G., West Lebanon.
Hileman, Elmer E., Hillsdale.
Hotham, H. DeV., Saltsburg.
Johns, William, 1236 Franklin Ave., Wilkinsburg (Allegheny Co.).

Kearney, J. Gardner, Dilltown.
Kirk, Charles H., Homer City.
Lewis, Ray N., Apollo (Armstrong Co.).
Lewis, E. Budd, Glen Campbell.
Lloyd, Harvey W., Starford.
Lyon, George R., Heilwood.
Lytle, Ralph M., Saltsburg.
McCreight, William S., Blairsville.
McFarlane, Joseph P., Vintondale.
McNelis, Thomas J., Waterman.
Miller, John S., Clymer.
Moore, Frank Fisher, Homer City.
Neal, Harry B., Indiana.
Nix, William H., 529 Water St., Indiana.
Onsott, Elmer E., Saltsburg.
Reed, Charles Paul, Indiana.
Rink, Charles E., Indiana.
Rutledge, Albert T., Blairsville.
St. Clair, John M., Indiana.
St. Clair, Frederick W., Indiana.
Salisbury, William John, Armagh.
Schall, Reuben Elmer, Arcadia.
Shields, William L., Kent.
Simpson, George E., Indiana.
Simpson, William A., Indiana.
Smith, Clark M., Plumville.
Smith, John Henry, Creekside.
Stevenson, Frank B., Indiana.
Stewart, Alexander H., Box 85, Indiana.
Stewart, John M., Marion Center.
Sutton, M. Alva, Avonmore (Westmoreland Co.).
Ward, James, Lucerne Mines.
Weitzel, William F., Indiana.
Widdowson, William Charles, Black Lick.

JEFFERSON COUNTY SOCIETY

(Organized Sept. 11, 1877. Incorporated April 16, 1887.)

President...Harry B. King, Reynoldsville.
V. Pres.....Charles R. Stevenson, Delancey.
Sec.-Treas..Norman C. Mills, Eleanor.
Reporter....John H. Murray, Punxsutawney.
Censors.....Abraham F. Balmer, Brookville.
Harry P. Thompson, Brookville.
James C. Borland, Falls Creek.
Committee on Public Policy and Legislation:
William F. Beyer, Punxsutawney.
Spencer M. Free, Dubois.
Norman C. Mills, Eleanor.
Exec. Com..Harry B. King, Reynoldsville.
Charles R. Stevenson, Delancey.
Norman C. Mills, Eleanor.
Prog. Com..Spencer M. Free, Dubois.
R. Ross Jordan, Dubois.
F. L. Schumacher, Dubois.

Stated meetings the second Thursday of each month at place determined by vote. Election of officers in January.

MEMBERS (50)

Allison, Harry W., Timblin.
Balmer, Abraham F., Brookville.
Benson, Francis L., Punxsutawney.
Benson, Joseph P., Punxsutawney.
Beyer, S. Meigs, Punxsutawney.
Beyer, William F., Punxsutawney.
Booher, Jay C., Falls Creek (Clearfield Co.).
Borland, James C., Falls Creek.
Bowser, Ira D., Reynoldsville.
Brown, John K., Brookville.
Davenport, Samuel M., Dubois (Clearfield Co.).
Free, Spencer M., Dubois (Clearfield Co.).
Gatti, William J., Punxsutawney.
Gourley, Russell C., Punxsutawney.
Grube, John E., Punxsutawney.
Hayes, Leo Z., Force (Elk Co.).
Huff, Samuel R., Eldred (McKean Co.).
Hughes, Edgar L., Helvetia (Clearfield Co.).
Humphreys, George H., Brockwayville.
Johnstone, Charles W., Dubois (Clearfield Co.).
Jordan, Ralph Ross, Dubois (Clearfield Co.).
King, Harry B., Reynoldsville.
Kuhns, John M., Ramsaytown.
Lorenzo, Frank A., Punxsutawney.
Lukehart, Joseph M., Plumville (Indiana Co.).
McGarrah, Harry B., Timblin.
Maine, Charles L., Dubois (Clearfield Co.).
Matson, Walter W., Brookville.
Mills, Norman C., Eleanor.
Mohney, Irvin R., Brookville.
Murray, John H., Punxsutawney.
Musser, Guy M., Punxsutawney.
Neale, J. Buchanan, Reynoldsville.
Newcome, John A., Vandergrift (Westmoreland Co.).
Newcome, William C., Big Run.
O'Neal, Harry A., Knoxdale.
Pringle, Francis D., Punxsutawney.
Raine, J. Franklin, Sykesville.
Schumacher, Forrest L., Dubois (Clearfield Co.).
Scott, Clinton H., Brookville.
Simpson, Alverdi J., Summerville.
Smathers, Francis C., Punxsutawney.
Snyder, Wayne L., Brookville.
Stevenson, Charles R., Delancey.
Thomas, David W., Lock Haven (Clinton Co.).
Thompson, Harry P., Brookville.
Vosburg, Harry A., Jr., Tyler (Clearfield Co.).
Walter, Jacob A., Punxsutawney.
Williams, Thornton R., Cynwyd (Montgomery Co.).
Young, Roy L., Ludlow (McKean Co.).

JUNIATA COUNTY SOCIETY

(Organized Aug. 7, 1907.)

President...B. H. Ritter, McCoysville.
V. Pres.....A. W. Shelley, Port Royal.
S. F. Metz, Thompsontown.
Secretary...Brady F. Long, Mifflin.
Treasurer...I. G. Headings, McAlisterville.
Reporter....A. W. Shelley, Port Royal.
Censors.....W. H. Haines, Thompsontown.
A. W. Shelley, Port Royal.
Committee on Public Policy and Legislation:
William H. Banks, Mifflintown.

Meetings held the first Wednesday of January, April, July and October at 1 p. m., in the Tuscarora Club Rooms, Mifflintown. Election of officers in January.

MEMBERS (11)

Banks, William H., Mifflintown.
Brown, Joseph Stewart, Okeson.
Crawford, Darwin M., Mifflintown.
Haines, William H., Thompsontown.
Headings, Isaac G., McAlisterville.
Long, Brady F., Mifflin.
Metz, Samuel F., Thompsontown.
Quig, Robert M., East Waterford.
Ritter, Benjamin H., McCoysville.
Shelley, Amos W., Port Royal.
Willard, Herman F., Mexico.

LACKAWANNA COUNTY SOCIETY

(Organized November 20, 1878.)

(Scranton is the postoffice when street address only is given.)

President...F. J. Bishop, 521 Connell Bldg.
V. Pres.....Theodore Sureth, Traders Nat. Bank Bldg.
J. B. Grover, Peckville.

Sec.-Treas..William T. Davis, County Savings Bank Bldg.
Asst. Sec....H. W. Albertson, 2416 North Main Ave.
Librarian...F. P. Hollister, 508 Dime Bank Bldg.
Censors.....D. W. Evans, 157 South Main Ave.
B. G. Beddoe, 324 South Main Ave.
N. E. Newbury, 1515 Capouse Ave.
Trustees....M. J. Williams, 302 South Main Ave.
F. L. Van Sickle, Olyphant.
J. B. Corser, 345 Wyoming Ave.
D. A. Capwell, Real Estate Bldg.
L. M. Gates, 802 Mulberry St.
Committee on Public Policy and Legislation:
W. Rowland Davies, Traders Bank Bldg.
R. T. Wall, 516 Spruce St.
M. J. Williams, 302 South Main Ave.
H. D. Gardner, Scranton Private Hospital.

Regular weekly meetings are held Tuesday evenings at 8:45 in the society's rooms, Real Estate Bldg., 136 North Washington Ave., Scranton, except July and August. Election of officers in January.

MEMBERS (166)

Albertson, Harry W., 2416 North Main Ave.
Anderson, U. Grant, Carbondale.
Armstrong, Ralph H., Peckville.
Avard, Charles MacQ., Connell Bldg.
Bailey, Mark L., Carbondale.
Barder, John J., 123 Hickory St.
Beach, George B., 232 South Main Ave.
Beddoe, Benjamin G., 324 South Main Ave.
Bendick, John J., Olyphant.
Berge, William Henry, Avoca.
Berney, Daniel E., Tower City (Schuylkill Co.).
Bishop, Frederick J., 521 Connell Bldg.
Brennan, John J., 230 South Main Ave.
Brown, Carl G., 322 Mulberry St.
Bryant, Frank G., 1107 Lafayette St.
Butzner, John Decker, 506 Dime Bank Bldg.
Cantor, Aaron S., Dickson City.
Capwell, Daniel A., Scranton Real Estate Bldg.
Catalano, Gregorio, Dunmore.
Carroll, Frank, 301 West Market St.
Carroll, Michael A., 139 Wyoming Ave.
Clarke, Anna C., 320 Jefferson Ave.
Conarton, Joseph L., Mayfield.
Connell, Alexander J., 404 Scranton Life Bldg., 530 Spruce St.
Conway, William H., Olyphant.
Cornell, Harvey B., 2031 Wayne Ave.
Corser, John B., Scranton Private Hospital.
Costello, Bernard E., Vandling.
Cress, William M., Clarks Summit.
Cross, Friend A., 310 Dime Bank Bldg.
Curtin, Eugene A., Dunmore.
Davenport, Fred M., 827 Greenridge St.
Davies, Emlyn Thomas, Old Forge.
Davies, Philip J., 608 South Main Ave.
Davies, William Rowland, Traders Bank Bldg.
Davis, Arthur E., 433 Wyoming Ave.
Davis, William T., Co. Savings Bank Bldg.
Dean, C. Edgar, 327 North Washington Ave.
Deantonio, Emilio, Box 68, 346 Franklin Ave.
Druffner, Lewis C., 549 Main St., Avoca (Luz. Co.).
Edwards, Edward E., Taylor.
Elsinger, Lucius M., Connell Bldg.
Evans, Daniel W., 157 South Main Ave.
Falkowsky, Charles, Jr., 327 Spruce St.
Frey, Clarence Leslie, Dime Bank Bldg.
Fulton, William G., 433 Wyoming Ave.
Gardner, Arthur P., Dime Bank Bldg.
Gardner, Herbert D., Scranton Private Hospital.
Garvey, Frank C., Connell Bldg.
Garvey, Raymond J., Minooka.
Gates, Lowell M., 802 Mulberry St.
Gibbons, Myles A., Dunmore.
Goodfriend, Harry, 325 Adams Ave.
Grant, John W., Dickson City.
Gross, Samuel, 406 Wyoming Ave.
Grover, John B., Peckville.
Hager, Albert E., Taylor.
Hazlett, Almon C., Dunmore.
Heston, Patrick J., 2602 Birney Ave.
Higgins, Gregory L., 70 South Main St., Carbondale.
Hollister, Frederick P., 508 Dime Bank Bldg.
Jackson, Byron H., 516 Spruce St.
Jenkins, David J., 234 South Main Ave.
Johnson, William S., Carbondale.
Kay, Thomas W., 506 Dime Bank Bldg.
Kearney, Patrick H., 312 Wyoming Ave.
Keller, William E., 510 Clay Ave.
Kelly, John F., 643 Adams Ave.
Kennedy, Lucius Carter, 1030 Greenridge St.
Kerling, George A., Gouldsboro.
Kerstetter, P. F., 1009 South Main Ave.
Kiesel, Ernest L., 515 Lackawanna Ave.
Killeen, Thomas G., Carbondale.
Knedler, J. Warren, Moscow.
Kraemer, Harry M., 319 Cedar Ave.
Kulczycki, John, 429 Pittston Ave.
Leopardi, Enrico Alfredo, Old Forge.
Lindsay, George G., Scranton Life Bldg.
Lloyd, Rossiter J., Olyphant.
Lloyd, William E., Forest City (Susq. Co.).
Loftus, John L., Old Forge.
Lonsdorf, Jacob John, Jr., 230 Stephen Ave.
Lowry, Welles J., Carbondale.
McGuire, J. P., Forest City (Susquehanna Co.).
McKeage, Robert B., Traders Bank Bldg.
McIntosh, James, Archbald.
McMahon, Grace C., 316 South Webster Ave.
MacDougall, William L., 216 Connell Bldg.
Mackey, Richard N., Clarks Summit.
Mackey, Robert Bliss, Waverly.
Malaun, Murvington E., Carbondale.
Manley, Peter C., 1326 Pittston Ave.
Martin, Thomas P., Mayfield.
Meyer, Samuel Z., 306 Wyoming Ave.
Monie, Thomas, Archbald.
Moss, John H., Archbald.
Moyer, Jacob C., 419 Connell Bldg.
Moylan, Francis P., 216 S. Main Ave.
Mullin, Oscar J., Hamlin (Wayne Co.).
Murray, Gilbert D., County Savings Bank Bldg.
Murrin, Connell Edward, 732 Pittston Ave.
Murrin, Joseph S., Carbondale.
Myer, William W., Old Forge.
Nealon, Leo A., State Hospital.
Newbury, Nelson E., 1515 Capouse Ave.
Newhart, H. S., 1425 Mulberry St.
Niles, Frank L., Carbondale.
Noecker, Charles B., 216 Connell Bldg.
Noone, Michael J., 2060 North Main Ave.
O'Brien, J. Emmett, Miller Bldg.
O'Malley, Martin F., 306 North Washington Ave.
O'Malley, William J., 1230 Providence Rd.
O'Toole, James E., 124 South Seventh St.
Peck, John L., 524 Vine St.
Peck, Welland A., 2604 North Main Ave.
Peet, Ernest L., 102 West Market St.
Penticost, Milton I., Peckville.
Price, John J., Olyphant.
Rea, James L., 1742 Sanderson Ave.
Rea, James L., Jr., 1620 Sanderson Ave.
Rebhorn, Earl H., 717 Quincy Ave.
Redding, Leonard G., Scranton Life Bldg.
Reedy, Walter M., 234 Connell Bldg.
Reifsnyder, Joseph C., Connell Bldg.
Ritz, Reinhart J., 715 North Main Ave.
Roberts, John J., 225 South Main Ave.
Robison, John I., 309 Connell Bldg.
Rodham, Thomas B., 1824 North Main Ave.
Rohrbach, Harvey O., Mill City (Wyoming Co.).

Rutherford, Thomas A., Clarks Summit.
Sarine, William Van Buren, Jermyn.
Sedlak, Frank J., 950 Prescott Ave.
Severson, Irwin W., 647 North Main Ave.
Shirey, Harry W., Dunmore.
Smith, Addison W., 225 Jefferson Ave.
Stegner, Adam, Rendham.
Stevens, Floyd W., 135 South Blakely St., Dunmore.
Sullivan, John J., Jr., Traders Bank Bldg.
Sullivan, John J., Sr., 2006 Wayne Ave.
Sureth, Theodore, 1821 North Main Ave.
Swift, Frank L., Dunmore.
Szlupas, John, 1419 North Main Ave.
Thomas, Robert E., 1919 North Main Ave.
Thomson, Charles E., Scranton Private Hospital.
Timlin, John J., Old Forge.
Vail, Howard L., Dalton.
Van Doren, William, Archbald.
Van Sickle, Frederick L., Olyphant.
Villone, Joseph, 206 Chestnut St.
von Poswik, Gisela, 523 N. Washington Ave.
Vorhees, Samuel H., Peckville.
Wagner, Joseph A., Throop.
Wahl, John C., 328 Pittston Ave.
Wainwright, Jonathan M., Co. Savings Bank Bldg.
Walker, Patrick H., 509 Luzerne St.
Wall, Russell T., 516 Spruce St.
Watson, Stephen S., Moosic.
Webb, Daniel A., 310 Wyoming Ave.
Wheelock, Frank R., 834 N. Main Ave.
White, J. Norman, 832 N. Main Ave.
White, Robert V., 212 S. Main Ave.
Williams, Morgan J., 302 S. Main Ave.
Wilson, John D., 225 Jefferson Ave.
Winebrake, Albert J., 441 Wyoming Ave.
Zeller, Charles A., Dalton.
Zychowicz, John F., 1315 Prospect Ave.

LANCASTER COUNTY SOCIETY

(Organized Jan. 26, 1844. Incorporated April 15, 1844.)

(Lancaster is the postoffice when street address only is given.)

President...Frank Alleman, 420 West Chestnut St.
V. Pres.....Clarence R. Farmer, 573 W. Lemon St.
Sec.-Treas..Horace Clemens Kinzer, 128 N. Duke St.
Reporter....Walter D. Blankenship, 144 East Chestnut St.
Censors.....Henry Walter, Rothsville.
J. J. Newpher, Mount Joy.
J. R. Lehman, Mountville.
Trustees....L. M. Bryson, Paradise.
F. G. Hartman, 136 North Duke St.
J. D. Hershey, Manheim.
Committee on Legal Affairs:
J. R. Roebuck, 233 North Duke St.
Committee on Public Policy and Legislation:
F. G. Hartman, 136 North Duke St.

Stated meetings at Medical Club Rooms, 16 South Prince Street, Lancaster, the first Wednesday of each month, at 2 p. m. Election of officers in January.

MEMBERS (125)

Alexander, Guy Levis, Clayton, Del.
Alleman, Frank, 420 West Chestnut St.
Appel, Theodore B., 305 North Duke St.
Armstrong, James, 732 Walnut St., Columbia.
Atlee, John L., 129 East Orange St.
Baer, Walter K., 223 North Duke St.
Barsumian, Hagop G., 205 East King St.
Binkley, William G., Washingtonboro.
Bitzer, Newton E., 236 West Chestnut St.
Blankenship, Walter D., 144 East Chestnut St.
Blough, Albert S., Elizabethtown.
Blough, Henry K., Elizabethtown.
Bolenius, Robert M., 48 South Queen St.
Bowman, Abraham G., 318 North Duke St.
Breneman, Park P., 146 East Walnut St.
Bricker, Elizabeth Bausman, Lititz.
Bryson, Howard R., 246 West Orange St.
Bryson, Lewis M., Paradise.
Cary, Dale Emerson, 204 East King St.
Davis, Henry B., 241 East King St.
Davis, Miles L., 114 North Prince St.
Day, George E., Strasburg.
Denlinger, Maurice M., Rohrerstown.
Dunlap, J. Francis, Manheim.
Farmer, Clarence R., 573 W. Lemon St.
Fox, William Garfield, 48 East Orange St.
Frew, George W. H., Paradise.
Garretson, William, East Petersburg.
Garvey, Thomas Q., 443 West Chestnut St.
Gerhard, Milton U., 43 South Prince St.
Good, Benjamin F., Washingtonboro, R. D. 1.
Hamaker, William B., 137 North Duke St.
Harter, G. Alvin, Maytown.
Hartman, Frank G., 136 North Duke St.
Hassenplug, Harry Gilmore, 565 West Lemon St.
Heller, Samuel H., 10 North Mulberry St.
Helm, Charles E., Bart.
Helm, John D., New Providence.
Henderson, Robert J., Bowmansville.
Herr, Ambrose J., 441 College Ave.
Herr, Benjamin F., Millersville.
Herr, John T., Landisville.
Herr, William H., 226 North Duke St.
Herr, William M., 224 West Orange St.
Hershey, George Blair, Gap.
Hershey, Jacob D., Manheim.
Hertz, John L., Lititz.
Hess, Ammon Gross, Mountville.
Hess, William G., Greene.
Hostetter, Jacob E., Gap, R. D. 1.
Houston, Joseph W., 238 East King St.
Hurst, Michael W., Talmage.
Ilyus, Edmund B., 130 East Walnut St.
Ingram, Theodore E., Marietta.
Irwin, Thaddeus S., Atglen (Chester Co.).
Kendig, Benjamin E., Salunga.
Kendig, Jerome S., Salunga.
Kennedy, Joseph P., Columbia.
Keylor, Walter N., Leacock.
Kinard, George C., Lincoln.
Kinard, George W., Leacock.
Kinzer, Horace Clemens, 128 North Duke St.
Kyle, Edward V., Christiana.
Leaman, Walter J., Leaman Place.
Lefever, Willis Hess, Ephrata.
Leh, Homer D., 234 North Duke St.
Lehman, Jacob R., Mountville.
Leslie, Leroy K., Bareville.
Lightner, Isaac Newton, Ephrata.
Long, Howard A., Brickerville.
Lowell, Francis Carroll, 113 East Walnut St.
Markel, Chester F., Columbia.
Martin, Daniel Webster, Manheim.
Martin, Dwight C., Lititz.
Martin, John R. S., Christiana.
Mentzer, John F., Ephrata.
Miller, Samuel W., 217 East King St.
Mowery, Harry A., Marietta.
Mowery, Jacob L., White Rock.
Musser, J. Henry, Lampeter.
Mylin, Walter F., Intercourse.
Netcher, Charles E., 609 West Orange St.
Newpher, John J., Mount Joy.
Noble, Edward I., 145 North Duke St.
Pomerantz, Harry, 29 South Prince St.
Posey, Silas Robert, Lititz.
Reemsnyder, Byron J., Ephrata, R. D. 3.
Reeser, Norman B., Lititz.
Reeser, Richard, Columbia.
Ressler, Jacob L., Bird-in-Hand.

Ringwalt, Martin, Rohrerstown.
Roebuck, J. Paul, 233 North Duke St.
Rohrer, George R., 45 East Orange St.
Roop, Claude D., State Hospital, Norristown (Montgomery Co.).
Roop, Harry B., Columbia.
Rothermel, Lewis R., Denver.
Russell, Evans D., Reamstown.
Shaeffer, Peter F., Christiana.
Shartle, J. Miller, 30 South Prince St.
Shear, Lewis M., 601 Manor St.
Shookers, Tobias C., 146 North Prince St.
Simons, Isaac Shirk, Elizabethtown.
Smith, Howard S., Reinholds.
Snyder, Asher F., Mount Joy.
Spangler, Charles C., 311 North Queen St., York (York Co.).
Stahr, Charles P., 139 East Walnut St.
Stein, Edgar J., 225 North Duke St.
Stever, John C., Bainbridge.
Steward, William J., State Inst., Pennhurst (Chester Co.).
Stubbs, Ambrose H., Peach Bottom.
Sultzbach, Henry Miller, 231 East King St.
Thome, Winfield M., Mount Joy.
Tinney, William Scott, Strasburg.
Treichler, Vere, Elizabethtown.
Trexler, Jacob F., 134 North Prince St.
Walter, Adam V., Brownstown.
Walter, Henry, Rothsville.
Wentz, Paul R., New Holland.
Winters, John L., Blue Ball.
Witmer, Charles Howard, 126 East Chestnut St.
Witmer, Elias H., Neffsville.
Workman, William M., Mount Joy.
Yoder, Mahlon Harold, Lititz.
Yost, John W., Bethesda.
Ziegler, James P., Mount Joy.

LAWRENCE COUNTY SOCIETY

(Organized Oct. 7, 1897.)

President...W. C. Burchfield, New Castle.
V. Pres.....Lenore M. Gageby, New Castle.
Eliah Kaplan, New Castle.
Sec.-Rept...W. A. Womer, New Castle.
Treasurer...C. F. McDowell, New Castle.
Censors....W. L. Campbell, New Castle.
John Foster, New Castle.
R. G. Miles, New Castle.

Society meets in society room in Greer Block, New Castle, on the first Thursday of every month at 8:30 p. m. Election of officers in January.

MEMBERS (45)

Berger, Benjamin Morris, New Castle.
Blackwood, James M., New Castle.
Boak, Robert G., New Castle.
Brice, Patrick J., New Castle.
Brown, Thaddeus C., West Pittsburgh.
Burchfield, William Clinton, New Castle.
Clark, William A., Jr., New Wilmington.
Cleland, William D., Harlansburg.
Cook, Katherine M., New Wilmington.
Cooper, Jesse R., New Castle.
Davis, Charles W., New Castle.
Dean, Hollis G., New Castle.
Douthett, James C. B., New Castle.
Flannery, Charles F., New Castle.
Gageby, Lenore H., New Castle.
Grossman, Louie W., New Castle.
Harper, H. Cyrus, New Castle.
Helling, Henry E., Ellwood City.
Iseman, Charles M., Ellwood City.
Kaplan, Eliah, New Castle.
Lindley, Don C., New Castle.
McCune, Samuel R., New Castle.
McDowell, C. Fenwick, New Castle.
McGiffin, Matthew N., New Bedford.
McKee, Harry W., New Castle.
Miles, Robert G., New Castle.
Mitchell, Henry C., New Castle.
Moore, Jesse D., New Castle.
Pollock, James K., New Castle.
Popp, James M., New Castle.
Shaffer, Thomas M., New Castle.
Smyser, Charles J., New Wilmington.
Snyder, Ernest Ulysses, 108 North Mercer St., New Castle.
Steen, William L., Hotel Belmont, Belmont, Ark.
Trainor, Charles Edwin, New Castle.
Tucker, John D., New Castle.
Urey, Frank F., East Washington St., New Castle.
Urmson, Allan W., New Castle.
Wallace, Robert A., New Castle.
Warner, Samuel L., New Castle.
Williams, Thomas V., New Castle.
Wilson, Harry R., New Castle.
Wilson, Loyal W., New Castle.
Womer, William A., New Castle.
Zerner, H. Elmore, New Castle.

LEBANON COUNTY SOCIETY

(Organized March, 1847.)

President...F. A. Rutherford, Lebanon.
V. Pres.....John L. Groh, Lebanon.
Elias K. Boltz, Lebanon.
Secretary...C. M. Strickler, Lebanon.
Treasurer...Harvey E. Maulfair, Lebanon.
Reporter....S. P. Heilman, Lebanon.
Censors.....William M. Guilford, Lebanon.
William R. Roedel, Lebanon.
John C. Bucher, Lebanon.
Committee on Public Policy and Legislation:
William M. Guilford, Lebanon.
S. P. Heilman, Lebanon, Chm.
Warren F. Klein, Lebanon.
Samuel Z. Shope, Harrisburg.
David S. Bordner, Palmyra.

Stated meetings the second Tuesday of each month at 2:30 p. m., Y. M. C. A. Building, Lebanon. Election of officers in January.

MEMBERS (36)

Bashore, Simeon D., Palmyra.
Beattie, John, 40th and Walnut Sts., Philadelphia.
Beckley, Joseph R., Lebanon.
Boltz, Elias K., Lebanon.
Bordner, David Stanton, Palmyra.
Brubaker, Walter H., Lebanon.
Bucher, John C., Lebanon.
Fretz, Milton B., Palmyra.
Gingrich, Edward H., 511 Cumberland St., Lebanon.
Groh, John B., Lebanon.
Groh, John L., Lebanon.
Guilford, William M., Lebanon.
Heilman, Samuel P., Lebanon.
Kerr, J. DeWitt, Lebanon.
Klein, Warren F., Lebanon.
Kurr, Thomas A., Fredericksburg.
Light, John J., Lebanon.
Light, Lincoln R., Lebanon.
Light, Seth A., 604 Cumberland St., Lebanon.
Marshall, Edwin Bell, Annville.
Marshall, John E., Annville.
Maulfair, Harvey E., Lebanon.
Means, W. Horace, High St., Lebanon.
Rank, David M., Annville.
Reiter, Albert S., Myerstown.
Risser, Ulysses G., Campbelltown.
Roedel, William R., Lebanon.

Rutherford, F. A., 518 Cumberland St., Lebanon.
Saylor, Clyde J., Lebanon.
Shope, Samuel Z., 610 N. Third St., Harrisburg (Dauphin Co.).
Strickler, Charles M., Lebanon.
Walter, John, Lebanon.
Warner, David H., Newmanstown.
Weiss, Alfred S., 630 Chestnut St., Lebanon.
Witmer, Frank B., Lebanon.
Zimmerman, Frank D., Schaefferstown.

LEHIGH COUNTY SOCIETY

(Organized 1850.)

(Allentown is the postoffice when street address only is given.)

President...C. H. Muschlitz, Slatington.
V. Pres.....W. B. Trexler, Fullerton.
F. R. Wentz, 610 N. Sixth St.
Secretary...G. S. Lawall, 534 N. Sixth St.
Treasurer...W. D. Kline, 24 N. Eighth St.
Reporter....F. R. Bausch, 109 N. Second St.
Librarian...D. H. Parmet, 436 Tilghman St.
Censors.....T. H. Weaber, 211 N. Eighth St.
M. H. Koch, 1131 Linden St.
R. C. Peters, 406 N. Eighth St.
Committee on Public Policy and Legislation:
W. D. Kline, 24 N. Eighth St.
Victor Gangeware, Rittersville.
R. C. Peters, 406 N. Eighth St.

Stated meetings at the Administration Building, South Penn St., Allentown, on the second Tuesday of each month at 2:30 p. m. Election of officers in January.

MEMBERS (85)

Albright, Roderick E., 135 S. Fifth St.
Arner, Quinton D., 18 S. Thirteenth St.
Bachman, Wilbur A., South Allentown.
Backenstoe, Martin J., Emaus.
Backenstoe, William A., Emaus.
Bausch, Frederick R., 109 N. Second St.
Bean, Harvey F., Mountainville.
Boyer, Frank S., 16 N. Second St.
Boyer, George H., 528 N. Sixth St.
Brady, Walter C., Slatedale.
Bruch, Elmer C., 1810 West St., Wilmington, Del.
Butz, J. Treichler, 304 N. Ninth St.
Butz, Warren H., Rittersville.
Deibert, George S., 225 N. Twelfth St.
Dickenshied, Eugene H., Zionsville, R. D. 1.
Eckert, John T., 438 N. Sixth St.
Erdman, Howard B., Macungie.
Feldhoff, Edward W., 1224 Turner St.
Fetherolf, Frederick A., 941 Hamilton St.
Fetherolf, William J., Steinsville.
Fogel, Solon C. B., 36 N. Twelfth St.
Gangeware, Victor, Rittersville.
Gearhart, Ethan J., 547 N. Eleventh St.
Gerberich, Arthur F., Limeport.
Guth, Nathaniel C. E., 527 Liberty St.
Haas, Milton J., 1353 Chew St.
Haff, Charles A., 2006 Washington Ave., Northampton (Northampton Co.).
Hartzell, William H., 22 N. Eighth St.
Hausman, William A., Jr., 1116 Hamilton St.
Hendricks, Augustus W., 453 N. Sixth St.
Henry, Charles O., 102 N. Tenth St.
Herbst, William F., 28 N. Fifth St.
Hertz, William J., 125 N. Eighth St.
Holben, Franklin J., Schnecksville.
Hornbeck, James L., Catasauqua.
Huebner, Irwin F., 802 Walnut St.
Jordan, Henry D., 544 N. Sixth St.
Keim, Harry J. S., Catasauqua.
Kern, Alvin J., Slatington.
Kern, Harrison B., Slatington.
King, Robert C., Hellertown (Northampton Co.).
Kistler, Jesse G., 1615 Chew St.
Kistler, Nelson F., 206 N. Ninth St.
Kleckner, Martin S., Eighth and Turner Sts.
Kline, M. J., Stettlersville.
Kline, Willard D., 24 N. Eighth St.
Koch, Morris H., 1131 Linden St.
LaBarre, Louis C., 936 Hamilton St.
Lawall, Griffith S., 534 N. Sixth St.
Lowright, James Harvey, Center Valley.
Lowright, Wallace J., Center Valley.
McAvoy, Jeremiah F., Catasauqua.
Masonheimer, Willard C., 130 N. Seventh St.
Matz, John D., 26 S. Seventh St.
Mickley, Howard P., Neffs.
Miller, Albert N., East Texas.
Miller, Mahlon G., Siegfried (Northampton Co.).
Minner, J. Edwin S., Egypt.
Mohr, Eugene H., Alburtis.
Muschlitz, Charles H., Slatington.
Otto, Calvin J., 130 N. Seventh St.
Parmet, David H., 436 Tilghman St.
Paul, James H., Laceyville (Wyo. Co.).
Peters, Nathaniel C., Cementon.
Peters, R. Cornelius, 406 N. Eighth St.
Quinn, Sydney A., 753 N. Sixth St.
Reitz, Charles B., Palmerton (Carbon Co.).
Ritter, Hope M., 101 N. Eleventh St.
Schaeffer, Charles D., 28 N. Eighth St.
Schaeffer, Forrest G., 143 N. Eighth St.
Schaeffer, Robert L., 30 N. Eighth St.
Schatz, William J., 1049 Liberty St.
Scheirer, Franklin B., 402 N. Sixth St.
Schlesman, Charles H., 216 N. Seventh St.
Schneller, John, Catasauqua.
Seiberling, Fred C., 945 Walnut St.
Seiberling, George F., 956 Hamilton St.
Smyth, Thomas L., 430 N. Second St.
Sowden, Edgar L., Slatedale.
Trexler, William B., Fullerton.
Troxell, William C., 502 N. Second St.
Weaber, Thomas H., 211 N. Eighth St.
Weaver, Joseph M., 48 S. Tenth St.
Weida, Isadore J., Emaus.
Wentz, Frank R., 610 N. Sixth St.

LUZERNE COUNTY SOCIETY

(Organized March 4, 1861.)

(Wilkes-Barre is the postoffice when street address only is given.)

President...August Trapold, 239 S. Washington St.
V. Pres.....H. B. Gibby, 96 S. Franklin St.
Secretary...E. L. Meyers, 239 S. Franklin St.
Fin. Sec.....M. C. Rumbaugh, 618 Wyoming Ave., Kingston.
Treasurer...E. U. Buckman, 70 S. Franklin St.
Censors.....L. A. Sheridan, 421 N. Main St., 3 yrs.
W. G. McGuire, 357 E. South St., 2 yrs.
Directors...S. P. Mengel, 181 S. Franklin St., 3 yrs.
Chas. Long, 33 S. Washington St., 2 yrs.
D. G. Robinhold, Forty Fort, 1 yr.
Ed. Lib.....L. H. Taylor, 83 S. Franklin St.

Stated meetings in the Society's Building, South Franklin St., Wilkes-Barre, first and third Wednesdays of each month at 8:30 p. m. Election of officers last meeting in December.

MEMBERS (194)

Adams, Erick A., 259 Dana St.
Ahlborn, Maurice B., 99 N. Franklin St.
Alexaitis, Francis L., 363 E. South St.
Andreas, George R., 204 E. South St.
Ashley, Charles L., Plymouth.

Baird, Thompson M., 246 Scott St.
Baker, Albert J., 811 N. Main St., Duryea.
Barney, Delbert, 55 N. Washington St.
Beaver, James R., 40 Luzerne Ave., West Pittston.
Becker, Conrad J., 679 Hazle St.
Bennett, Clarence E., 14 Green St., Nanticoke.
Berge, William H., Avoca.
Biehl, Jefferson P., 34 Center Ave., Plymouth.
Bixby, Edward W., 61 W. Ross St.
Blair, Lovisa Ida, 342 S. River St.
Blazejewski, Stanley W., 46 S. Washington St.
Briggs, Miron L., Shickshinny.
Brooks, Allan C., 84 N. Franklin St.
Brooks, James, Main St., Plains.
Brosius, Peter E., 639 W. Diamond Ave., Hazleton.
Brown, Harry A., Lehman.
Buckley, Ralph Emerson, 143 N. Church St., Hazleton.
Burke, Richard James, 17 S. Welles St.
Burke, Joseph P., Pittston.
Buckman, Ernest U., 70 S. Franklin St.
Burkhardt, George F., 109 S. Cedar St., Hazleton.
Caffrey, Anthony J., 311 S. Washington St.
Carr, George W., 30 S. Franklin St.
Carter, William S., 15 W. Broad St., Hazleton.
Clark, George A., 326 S. Main St.
Collmann, Xavier K., 93 E. North St.
Cook, Benjamin B., Wapwallopen.
Corrigan, James A., 336 W. Broad St., Hazleton.
Corrigan, John J., 336 W. Broad St., Hazleton.
Corrigan, William H., 141 S. Washington St.
Creasy, Raymond C., 71 S. Washington St.
Cressler, John Webster, 152 Hanover St.
Cuozzo, James A., Hazleton.
Dailey, Thomas J., 15½ W. Main St., Plymouth.
Daley, Daniel F., 214 Chestnut St., Kingston.
Danzer, William F., 226 W. Broad St., Hazleton.
Dattner, A., 289 N. Main St.
Davis, William J., 225 Barney St.
Davison, William F., 31 Union St., Kingston.
Deibel, Henry W., 531 S. River St.
Dessen, Louis A., 26 W. Diamond Ave., Hazleton.
Dickinson, Charles S., Freeland.
Dinkelspiel, Max R., 20 N. Franklin St.
Dodson, Boyd, 186 Dana St.
Dodson, Daniel W., Nanticoke.
Doolittle, Edgar B., 145 N. Laurel St., Hazleton.
Dougherty, Joseph P., 9 Ashley St., Ashley.
Doyle, William J., 553 Hazel Ave.
Drake, George R., Plymouth.
Dreibelbies, Wilbmer Clayton, 92 Carey Ave.
Dyson, John R., 22 N. Church St., Hazleton.
Edwards, Lewis, 790 Market St., Kingston.
Edwards, Vivian P., 535 Main St., Kingston.
Ellsworth, Elijah M., 80 N. Dorrance St., Dorranceton.
Ernst, Charles H., 55 Hanover St.
Everett, Shem A., Freeland.
Fabian, Andrew A., Larksville, Plymouth.
Farrar, John K., Audenried (Carbon Co.).
Fischer, Herman A., 311 S. Washington St.
Fleming, Thomas F., 1210 Wyoming Ave., Pittston.
Foss, Walter B., 36 N. Main St., Ashley.
Foster, Alfred E., 271 Barney St.
Foster, W. A., Fairview.
Freeman, Stanley L., 26 W. Ross St.
Gagion, Thomas R., 63 Wells Bldg.
Gaughan, Martin C., 127 Broad St., Pittston.
Gaughan, Robert A., 180 N. Laurel St., Hazleton.
Geist, James W., 529 S. Franklin St.
Gibby, Herbert B., 96 S. Franklin St.
Gilligan, James P., 359 Scott St.
Griffith, Morgan E., 528 Carey Ave.
Groblewski, Casimir C., 20 Elm St., Plymouth.
Grover, Alfred Woodward, 256 Maple St., Kingston.
Guthrie, Malcolm C., 109 S. Franklin St.
Harrington, George W., 544 N. Vine St., Hazleton.
Harrison, William F., 14 W. Carey St., Plains.
Hartman, William L., 806 Susquehanna Ave., West Pittston.
Helman, William S., 621½ S. Main St., Avoca.
Heyer, Edward G., Nanticoke.
Heyer, Frederick W., Nanticoke.
Higgs, Charles J., 57 Carey Ave.
Hinrichs, August G., Pittston.
Hoffman, George L., 1110 Wyoming Ave., Kingston.
Howell, Gideon L., Trucksville.
Howell, John T., 84 N. Main St.
Howorth, John, 64 N. Franklin St.
Huebner, Dewees A., Fern Glen.
Hughes, Willet E., 59 N. Main St., Ashley.
Jacobosky, Cyrus, 211 S. Main St.
James, Uriah A., 18 N. Main St., Pittston.
Jamison, Peter H., Nescopeck.
Jennings, Joseph A., 10 N. Main St., Pittston.
Kaufman, Albert, 51 N. Washington St.
Keller, Harry M., 215 W. Broad St., Hazleton.
Kerr, Percival M., 92 S. Franklin St.
Kingsbury, Dana W., Nanticoke.
Kirschner, John W., 63 Main St., Luzerne.
Kistler, Oliver F., 43 N. Franklin St.
Kleintab, Freas B., Wyoming.
Knapp, Charles P., 270 Wyoming Ave., Wyoming.
Kochczynski, Joseph C., Hazleton.
Kocyan, Joseph J., 60 Hudson Rd., Plains.
Koons, Robert O., Conyngham.
Kosek, Frank J., 447 N. Main St.
Krajewski, Frank J., 61 N. Washington St.
Krych, Felix J., 285 Main St., Kingston.
Laing, Henry M., Dalls.
Lake, David H., 137 Maple St., Kingston.
Lance, Ruth Mitchell, 44 Reynolds St., Kingston.
Lathrop, Walter, State Hospital, Hazleton.
Lavin, John L., 37 Perrin St., Swoyersville.
Lenahan, Hugh J., 10 Charles St., Pittston.
Long, Charles, 33 S. Washington St.
McClintock, Andrew T., 73 W. Northampton St.
McGuire, William J., 357 E. South St.
McHugh, John J., Parsons.
McLaughlin, Patrick A., 34 S. Washington St.
Mahon, John B., 32 N. Main St., Pittston.
Marvin, Merton E., 19 Main St., Luzerne.
Matlack, Granville T., 33 W. Northampton St.
Mayock, Peter P., 68 S. Main St.
Mengel, Samuel P., 181 S. Franklin St.
Meyers, Elmer L., 239 S. Franklin St.
Miner, Charles H., 115 S. Franklin St.
Molinelli, John H., 106 N. Main St., Pittston.
Moore, Charles E., Alden Station.
Morgan, Ashton H., 361 E. Market St.
Mundy, Leo C., 400 Scott St.
Murray, Michael A., 243 S. Washington St.
Myers, N. Ray, Wanamie.
Nealon, James M., Plymouth.
Newth, John H., 237 S. Main St., Pittston.
Nicholson, Charles E., Pittston.
Nurse, Charles T. C., 107 Hickory St.
Owens, Harry J., 348 W. Broad St., Hazleton.
Parfitt, Oliver A., 53 S. Market St., Nanticoke.
Person, William C., 152 N. Laurel St., Hazleton.
Phillips, Chester H., 130 S. Franklin St.
Prevost, Clarence W., 222 Wyoming Ave., Pittston.
Redelin, Albert Augustus, Freeland.
Richards, Emrys, 173½ N. Main St.
Robinhold, Daniel G., Forty Fort.
Roderick, Edward R., 92 S. Franklin St.
Roe, J. Irving, 317 S. River St.
Rogers, Lewis Leonidas, 268-270 Wyoming Ave., Kingston.
Rogers, Lewis Leonidas, Jr., 268-270 Wyoming Ave., Kingston.
Ross, Nathaniel, 141 Hanover St.
Rubenstein, Harry, Pittston.
Ruffner, Samuel A., 169 S. Maple St., Kingston.

Rumbaugh, Marshall Cloyd, 618 Wyoming Ave., Kingston.
Rummage, Leland C., Sweet Valley.
Rynkiewicz, Stanley H., 449 Main St., Kingston.
Schappert, N. Louis, 57 S. Washington St.
Scheifly, John E., 284 Wyoming Ave., Kingston.
Shafer, Charles Layton, 219 College Ave., Kingston.
Sheridan, Lawrence A., 421 N. Main St.
Sickler, Parke C., 90 Academy St.
Smith, A. Burton, Wyoming.
Smith, Lawrence H., 189 N. Church St., Hazleton.
Smith, W. Clive, 132 S. Franklin St.
Smith, Ziba L., West Nanticoke.
Stewart, Walter S., 98 S. Franklin St.
Stiff, William Clifton, Plymouth.
Stoeckel, Louise M., N. Franklin and Union Sts.
Storz, John C., Luzerne.
Straub, Peter, 236 Bowman St.
Stricker, William B., Nanticoke.
Summa, Frank Paul, 104 Maple St., Kingston.
Sweeney, Edward A., 63 S. Washington St.
Taylor, Lewis H., 83 S. Franklin St.
Taylor, Richard P., 55 S. Washington St.
Templeton, Harry G., Plymouth.
Thomas, Frank D., 781 Wyoming Ave., Kingston.
Thompson, James R., 42 N. Main St., Pittston.
Thompson, Lawrence M., 549 Wyoming Ave., Dorranceton.
Tobias, John B., 305 E. Northampton St.
Trapold, August, 239 S. Washington St.
Tressler, Charles W., Shickshinny.
Truckenmiller, Roy, Freeland.
Wadhams, Raymond L., 72 N. Franklin St.
Wagner, Edward C. O., 125 S. Washington St.
Waters, William W., Nanticoke.
Wetherby, Della P., 69 W. Union St.
Whitney, Harry LeRoy, Plymouth.
Wilcox, Homer B., 165 Maple St., Kingston.
Woehrle, Robert S., 403 Green Ave., Parsons.
Wolfe, Samuel M., 218 S. Franklin St.
Wyckoff, Sarah Delia, 68 W. South St.
Yeager, Clark Harvey, 5 Main St.

LYCOMING COUNTY SOCIETY

(Organized 1849.)

(Williamsport is the postoffice when street address only is given.)

President...G. W. Metzger, Hughesville.
V. Pres.....J. A. Campbell, 838 Fuston Ave., Newberry Station.
M. L. Raemore, 41 W. Fourth St.
Sec.-Treas..W. S. Brenholtz, 151 E. Third St.
Rept.-Libra.W. F. Kunkle, 519 Seventh Ave.
Trustees....W. B. Konkle, Montoursville.
A. P. Hull, Montgomery.
W. E. Delaney, 340 W. Fourth St.
Committee on Public Policy and Legislation:
Charles J. Cummings, 755 W. Fourth St.
W. S. Brenholtz, 151 E. Third St.
H. G. McCormick, 430 W. Fourth St.
C. W. Youngman, 601 Pine St.
V. P. Chaapel, 2017 W. Fourth St., Newberry Station.
Prog. Com..W. E. Delaney, 340 W. Fourth St.
L. E. Langley, 3 W. Third St.
C. E. Heller, 221 E. Third St.

Stated meetings at City Hospital, Williamsport, second Friday of each month at 2 p. m. Annual meeting in January.

MEMBERS (102)

Adams, Charles M., 1025 W. Fourth St.
Adams, F. Raymond, Watsontown (Northum. Co.).
Albright, Joseph W., Muncy.
Bastian, Charles B., 48 W. Fourth St.
Beach, John D., 223 Market St.
Bell, G. Franklin, 821 Diamond St.
Bingaman, Charles E., Palmerton (Carbon Co.).
Born, Reuben H., Montoursville.
Bower, Raymond J., Duboistown.
Brenholtz, Walter S., 151 E. Third St.
Brown, John C., 35 W. Fourth St.
Campbell, John A., 838 Funston Ave., Newberry Sta.
Castlebury, Alzine M., 945 Campbell St.
Castlebury, Frank Fullmer, Roaring Branch.
Castlebury, Galen D., Ralston.
Chaapel, Victor P., 2017 W. Fourth St., Newberry Sta.
Clinger, Joseph A., Milton (Northum. Co.).
Cummings, Charles J., 755 W. Fourth St.
Davis, George C., Milton (Northum. Co.).
Delaney, William E., 340 W. Fourth St.
Derr, Fuller S., Watsontown (Northum. Co.).
Derr, Joseph L., Lairdsville.
Derr, Woods F., 626 Pine St.
Donaldson, Harry J., 106 E. Fourth St.
Drick, George R., 27 W. Fourth St.
Dye, Adelbert D., Elbon.
Everett, Edward, Masten.
Follmer, William H., 323 Elmira St.
Frisbee, Marian K., York (York Co.).
Fulmer, Joseph Cleveland, 1116 E. Third St.
Gilmore, Irwin T., Picture Rocks.
Glosser, William E., 440 Market St.
Goodman, Lee M., Jersey Shore.
Gordner, J. Frank, Montgomery.
Hardt, Albert F., 414 Pine St.
Harley, John P., 27 W. Fourth St.
Haskin, Herbert P., 324 High St.
Hayes, Randall B., 1225 Allegheny St., Jersey Shore.
Heller, Charles E., 221 E. Third St.
Hull, Alem P., Montgomery.
Hull, Waldo W., 242 Pine St.
Hunt, James E., Salladasburg.
King, William L., Muncy.
Klump, George B., 430 Pine St.
Klump, John A., 331 Elmira St.
Konkle, W. Bastian, Montoursville.
Kunkle, Wesley F., 519 Seventh Ave.
Lamade, Albert C., 42 E. Fourth St.
Langley, Louis Elsworth, 3 W. Third St.
Lehman, Charles A., 2105 W. Fourth St.
Logue, J. Gibson, 410 Rural Ave.
Logue, William P., 240 Pine St.
Lyon, Edward, 24 W. Fourth St.
McCormick, Horace G., 430 W. Fourth St.
Mansuy, J. Louis, Ralston.
Marsh, William G., Watsontown (Northum. Co.).
Metzger, George W., Hughesville.
Miller, William H., 18 E. Third St.
Milnor, Robert H., Warrensville.
Mohn, Charles L., Jersey Shore.
Mosher, James S., Hillsgrove (Sullivan Co.).
Muffly, George W., Turbotville (Northum. Co.).
Nevling, Ferdinand S., Clearfield (Clearfield Co.).
Norris, Franklin J., Hospital for Insane, Somerset (Somerset Co.).
Nutt, John B., 430 Pine St.
Persing, Amos V., Allenwood (Union Co.).
Poust, G. Alvin, Hughesville.
Raemore, M. L., 41 W. Fourth St.
Rank, Lee Russell, Milton (Northum. Co.).
Raper, Thomas W., 602 Pine St.
Reilly, Peter C., 229 Market St.
Renn, Carl G., Lairdsville.
Rewalt, Robert K., First Natl. Bank Bldg.
Ritter, Ella N., 1211 W. Fourth St.
Ritter, George T., First Natl. Bank Bldg.
Ritter, H. Murray, First Natl. Bank Bldg.
Ritter, James W., Jersey Shore.
Rote, William H., 51 W. Third St.

Sanford, Frederick G., 1407 Walnut St., Jersey Shore.
Schaefer, J. Elmer, Cogan Station.
Schneider, Charles, 1501 South Ave., South Williamsport.
Schneider, George L., 16 W. Third St.
Senn, Carl H., 443 Market St.
Senn, Walter W., 247 Washington St.
Shaw, Clarence E., 37 W. Fourth St.
Shindel, William L., Sunbury (Northum. Co.).
Shuman, Warren N., Jersey Shore.
Spencer, Robert Douglass, 415 Lincoln Ave.
Steans, Ralph, Lewisburg (Union Co.).
Strait, Barbara Kuntz, 817 Main St., Penn Yan, N. Y.
Trainer, Robert F., 310 Elmira St.
Troutman, George C., 928 W. Third St.
Tule, R. Bruce, Milton (Northumberland Co.).
VanHorn, John W., Montoursville.
Voorhees, Charles D., Hughesville.
Webster, J. Grant, Wellsboro (Tioga Co.).
Weigle, Henry S., Muncy.
Welker, Abraham T., Collomsville.
Wood, T. Kenneth, Muncy.
Wright, Louis W., 3 W. Market St.
Wurster, Lloyd E., Linden.
Youngman, Charles W., 601 Pine St.

McKEAN COUNTY SOCIETY

(Organized June 18, 1880.)

President...Louis D. Joseph, Bradford.
V. Pres.....Evan O'Neill Kane, Kane.
Sec.-Treas..James Johnston, Bradford.
Censors.....Burg Chadwick, Smethport.
Thomas O. Glenn, Bradford.
James B. Stewart, Bradford.
Committee on Public Policy and Legislation:
George E. Benninghoff, Bradford.
Henry J. Nichols, Bradford.
Earle M. McLean, Bradford.

Stated meetings at place selected the first Tuesday of each month. Election of officers in January.

MEMBERS (43)

Ash, Garrett G., Bradford.
Benninghoff, George E., Bradford.
Canfield, Harris A., Bradford.
Chadwick, Burg, Smethport.
Clark, John, Smethport.
Cleveland, Howard Martin, Mt. Jewett.
Cox, Milo W., Kane.
Cummings, George M., Betula.
Dana, Lawrence W., Kane.
Eaman, Howard K., Mt. Jewett.
Elliott, Charles F., 21 Main St., Bradford.
Fredericks, William J., Bradford.
Glenn, Thomas O., Bradford.
Haines, Samuel H., Bradford.
Hall, Bret H., Bradford.
Hamilton, Robert, Smethport.
Hannum, Oscar S., Bradford.
Hays, Mary J., Kane.
Heimbach, James M., Kane.
Hogan, William C., Bradford.
Johnson, Frederick C., Mont Alto (Franklin Co.).
Johnston, James, Bradford.
Joseph, Louis Daniel, Bradford.
Kane, Evan O'Neill, Kane.
Kane, Thomas L., Kane.
Kunkel, Oscar F., Bells Camp.
McCoy, Henry L., Smethport.
McGraner, William J., Port Allegany.
McLean, Earle McCormack, Bradford.
Moyer, Walter S., Rixford.
Nichols, Henry James, Bradford.
Ostrander, William A., Smethport.
Otto, James V., Port Allegany.
Paton, Fred Wade, Bradford.
Robison, Joseph H., Bradford.
Russell, Reister K., Bradford.
Stewart, James B., Bradford.
Van Slyke, Allan A., Mt. Jewett.
White, Benjamin Franklin, Jr., Bradford.
White, Grace, Bradford.
Wilson, Homer A., Bradford.
Winger, Frederick W., Bradford.
Woodhead, H. Irvin, Bradford.

MERCER COUNTY SOCIETY

(Organized 1848.)

President...George W. Kennedy, Sharon.
V. Pres.....David A. Brown, Greenville.
Sec.-Rept...F. M. Bleakney, Grove City.
Treasurer...J. H. McClelland, Grove City.
Censors.....M. G. Yeager, Mercer.
J. H. Twitmyer, Sharpsville.
B. E. Mossman, Sr., Greenville.
Committee on Public Policy and Legislation:
C. C. Marshall, Sharon.
M. G. Yeager, Mercer.
W. W. Wyant, Farrell.

Stated meetings second Thursday in January, March, May, July, September and November at such place as society shall direct. Election of officers in January.

MEMBERS (66)

Armstrong, Henry, Sharon.
Bachop, John C., Sheakleyville.
Bailey, Carl, Jamestown.
Bakewell, Frank S., Greenville.
Barnes, Matthew A., Pardoe.
Batteiger, Frederick O., Greenville.
Biggins, Patrick E., Sharpsville.
Bleakney, Frank M., Grove City.
Breene, Lawrence N., Farrell.
Brown, David A., Greenville.
Brown, Robert W., Greenville.
Campbell, Willard B., Grove City.
Campbell, Watson E., Sharon.
Cattron, Adison E., Sharpsville.
Cheesman, John C., Grove City.
Cooley, Judson, Sandy Lake.
Doyle, Joseph A., Greenville.
Elliott, John W., Sharon.
Ferringer, John E., Stoneboro.
Fisher, Philip P., Sharon.
Frye, Benjamin A., Sharpsville.
Funderburgh, Joe, Mercer.
Gilliland, Caroline J., Sharon.
Hanna, David B., Stoneboro.
Heilman, Ralph S., Sharon.
Heilman, Salem, Sharon.
Hoffman, James D., Grove City.
Hogue, Thomas F., Fredonia.
Hoon, Anthony I., Mercer.
Hope, Paul T., Mercer.
Hope, Robert M., Mercer.
Hyde, Allan P., Sharon.
Hunter, John A., West Middlesex.
Jones, Orlando A., Sharon.
Kennedy, George W., Sharon.
Kusmin, Harry, Farrell.
MacBride, Martha Edith, 203 Hamory Bldg., Sharon.
McClelland, James H., Grove City.
McConnell, Edwin M., Grove City.
McElhaney, Clarence W., Greenville.
McElree, Frank E., Greenville.
Marshall, Clifford C., Sharon.
Martin, John M., Grove City.

Matta, Florence B., Brownsville (Fayette Co.).
Mehler, Carl J., Sharon.
Mitchell, Andrew J., Sharon.
Mitchell, Thomas H., Jamestown.
Montgomery, Beriah A., Grove City.
Mossman, Beriah E., Greenville.
O'Brien, Augustus M., State St., Sharon.
Parks, Arthur A., Fredonia.
Phillips, William H., Greenville.
Reed, Joseph H., Greenville.
Richardson, William W., Mercer.
Rickenbrode, Charles O., Farrell.
Spearman, John Francis, 205 Hamory Bldg., Sharon.
Tidd, Ralph M., Clark.
Twitmyer, John H., Sharpsville.
Walker, Charles I., Sharon.
Weidman, J. Clayton, Mercer.
White, Harry, Sharon.
Whyte, Harry A., 206 Idaho St., Farrell.
Wilson, Homer S., Grove City.
Wyant, William W., Farrell.
Worrall, Emma Hodge, Pulaski (Lawrence Co.).
Yeager, M. George, Mercer.

MIFFLIN COUNTY SOCIETY

(Organized March 4, 1847.)

President...S. M. Hazlett, Allensville.
V. Pres.....S. J. Boyer, Milroy.
J. W. Mitchell, Lewistown.
Sec.-Lib....J. A. C. Clarkson, Lewistown.
Treasurer...A. S. Harshberger, Lewistown.
Reporter....P. M. Allis, Lewistown.
Censors.....W. H. Parcels, Lewistown.
W. S. Wilson, Lewistown.
C. H. Brisbin, Lewistown.
Committee on Public Policy and Legislation:
A. S. Harshberger, Lewistown.
H. S. Alexander, Belleville.
S. H. Rothrock, Reedsville.
H. W. Sweigart, Lewistown.
S. J. Boyer, Milroy.
B. R. Kohler, Reedsville.

Stated meetings in Lewistown or elsewhere as may be selected, on the first Thursday of each month. Election of officers in December.

MEMBERS (28)

Alexander, Hugh S., Belleville.
Allis, Paul M., Lewistown.
Allison, Elizabeth, Madison, Wis.
Baker, William M., Lewistown.
Bernett, Robert T., Lewistown.
Boyer, Samuel J., Milroy.
Brisbin, Charles H., Lewistown.
Campbell, Marsden D., Mapleton Depot (Hunt. Co.).
Clarkson, James A. C., Lewistown.
Getter, John P., Belleville.
Harshberger, Alexander S., Lewistown.
Hazlett, Silas M., Allensville.
Johnson, Charles M., McVeytown.
Kohler, Benjamin R., Reedsville.
Kohler, William H., Milroy.
McKim, Vincent I., Burnham.
Miller, Henry E., McAlevys Fort (Hunt. Co.).
Mitchell, James W., Lewistown.
Morrow, J. Robert, Mt. Union (Hunt. Co.).
Parcels, Walter H., Lewistown.
Rothrock, Samuel H., Reedsville.
Rupp, Frederick A., Lewistown.
Smith, Thomas H., Burnham.
Stambaugh, Charles J., Reedsville.
Steele, Bruce P., McVeytown.
Sweigart, Henry W., Lewistown.
Swigart, Samuel W., Lewistown.
Wilson, Walter S., Lewistown.

MONROE COUNTY SOCIETY

(Organized Nov. 24, 1902.)

President...Eugene H. Levering, 805 Main St., Stroudsburg.
Sec.-Treas..E. W. Gulick, 520 Main St., Stroudsburg.
Committee on Public Policy and Legislation:
Chas. S. Logan, 401 Main St., Stroudsburg.

Regular meetings held at 520 Main St. (Dr. Gulick's Residence), Stroudsburg, the first Thursday in each month at 8 p. m. Annual meeting in January.

MEMBERS (16)

Angle, Walter L., 229 South Courtland St., East Stroudsburg.
Erdman, Mary, 736 Main St., Stroudsburg.
Gregory, William E., 539 Main St., Stroudsburg.
Gulick, Esther W., 520 Main St., Stroudsburg.
Hagenbuch, Phoebe H. F., 733 North Eighth St., Stroudsburg.
Henry, John C., 177 Crystal St., East Stroudsburg.
Levering, Eugene H., 805 Main St., Stroudsburg.
Levering, William R., 757 Main St., Stroudsburg.
Logan, Charles Shaw, 401 Main St., Stroudsburg.
Ritter, Frederick W., Tannersville.
Singer, J. Anson, 116 Washington St., E. Stroudsburg.
Smith, Louis B., Bushkill (Pike Co.).
Stotz, Joseph A., Brodheadsville.
Trach, David C., Kresgeville.
Travis, George S., 22-24 North Courtland St., East Stroudsburg.
Wertman, Alvin A., Tannersville.

MONTGOMERY COUNTY SOCIETY

(Organized January, 1847.)

President...Richard H. Harris, Elkins Park.
V. Pres.....S. Metz Miller, Norristown.
George T. Lukens, Conshohocken.
Secretary...E. S Buyers, Norristown.
Cor. Sec.
and Rept...B. F. Hublev, Norristown.
Treasurer...W. G. Miller, Norristown.
Censors.....Percy H. Corson, Plymouth Meeting.
W. G Miller, Norristown.
George F., Hartman, Port Kennedy.
Committee on Public Policy and Legislation:
H. A. Bostock, Norristown.
W. G. Miller, Norristown.
O. C. Heffner, Pottstown.
Lib. Com...J. L. D. Eisenberg, Norristown.
George W. Miller, Norristown.
W. J. Wright, Skippack.
Editors of Bulletin:
J. N. Hunsberger, Norristown.
E. G. Kriebel, Norristown.
F. C. Parker, Norristown.

Stated meetings in Charity Hospital, Norristown, at 2:30 p. m., on the first and third Wednesdays of every month excepting July and August. Election of officers in January.

MEMBERS (132)

Allebach, Newton G., Souderton.
Allen, Frederick B., North Wales.
Anders, Warren Z., Trappe.
Arnold, Herbert A., Ardmore.
Baggs, Albert N., Abington.
Bauman, J. Warren, Lansdale.
Benner, Ervin F., Salfordville.
Bigony, Franklin G., Lansdale.
Blair, Walter A., Norristown.
Blanck, Joseph E., Green Lane.
Bostock, Herbert A., Norristown.
Bower, John Oscar, Wyncote.

Branson, Thomas F., Rosemont.
Brown, Joel D., 14 Powell Ave., Millbourne.
Bushong, Frederic, Pottstown.
Buyers, Edgar S., Norristown.
Bynon, Margaret Hughes, 1533 N. 19th St., Philadelphia.
Chrystie, Walter, Bryn Mawr.
Cloud, Joseph Howard, Box 484, Ardmore.
Corson, Edward Foulk, Cynwyd.
Corson, Percy H., Plymouth Meeting.
Council, Malcolm S., Bryn Mawr.
Cross, Sumner H., Jenkintown.
Crowe, James, Huntingdon Valley.
Dewees, A. Lovett, Haverford.
Dill, Wallace W., Norristown.
Donaldson, Albert Barnes, Bala.
Doran, Charles F., Phoenixville (Chester Co.).
Drake, Howard H., Norristown.
Eisenberg, J. Lawrence D., Norristown.
Eisenberg, Philip Y., Norristown.
Elmer, Robert P., Wayne (Delaware Co.).
Evans, Alexander Rae, Gladwyne.
Fabbri, Remo, 354 E. Main St., Norristown.
Faries, Clarence T., Narberth.
Fordyce, DeLorme T., Conshohocken.
Gamble, Robert G., Haverford.
Garner, Albert R., Norristown.
Gerhard, George S., Overbrook, Philadelphia.
Gery, Alfred O., East Greenville.
Godfrey, Andrew, Ambler.
Gotwals, John Elmer, Phoenixville (Chester Co.).
Graber, Henry, Royersford.
Graber, James D., Royersford, R. D. 2.
Hall, Katherine S., Fort Washington.
Hanley, Paul D., Pottstown.
Harris, Richard H., Elkins Park.
Hartman, George F., Port Kennedy.
Harvey, John, Bryn Mawr.
Hassell, Howard W., Bridgeport.
Heffner, Oliver C., Pottstown.
Herman, Ambrose C., Lansdale.
Highley, George N., Conshohocken.
Horning, Samuel B., Collegeville.
Hough, Charles B., Ambler.
Hubley, Benjamin F., Norristown.
Hunsberger, J. Newton, Norristown.
Hunsberger, William H., Pennsburg.
Irwin, George R., Bridgeport.
Jago, Arthur H., Ardmore.
Jameson, William B., Mont Alto (Franklin Co.).
Keeler, Russell R., Harleysville.
Keeler, Vincent Z., Harleysville.
Kell, Elmer A., 608 W. Lincoln Highway, Rawlings, Wyo.
Knipe, Reinoehl, Norristown.
Knipe, William H., Limerick.
Kriebel, Elmer G., Norristown.
Lakin, H. Pearce, Lansdale.
Landis, James C., Pennsburg.
Luders, Charles Williamson, Cynwyd.
Lukens, George T., Conshohocken.
McCracken, James A., Norristown.
McKenzie, William, Conshohocken.
MacLeod, George I., Ardmore.
Markley, John Morris, Graterford.
Mauger, Lee F., Pottstown.
Miller, George W., Norristown.
Miller, S. Metz, State Hospital, Norristown.
Miller, William G., Norristown.
Nathan, David, Norristown.
Neiffer, Milton K., Wyncote.
Neiman, Howard Y., Pottstown.
Nicholson, Percival, Ardmore.
O'Neal, Alexander H., St. Davids (Delaware Co.).
Parker, Frank C., Norristown.
Peterson, Jessie Marie, State Hospital, Norristown.
Podall, Harry C., State Hospital, Norristown.
Porter, J. Elmer, Pottstown.
Powell, William Chambers, Jr., Bryn Mawr.
Pyfer, Howard F., Norristown.
Quinn, Elwood T., Jenkintown.
Rahn, Norman H., Souderton.
Ramsey, Frank M., Chestnut Hill.
Read, Alfred H., Norristown.
Reed, Henry D., Pottstown.
Roberts, Isaac B., Llanerch (Delaware Co.).
Roberts, Willis Read, Norristown.
Rose, Clarence Atwood, Ardmore.
Roth, John A., Red Hill.
Rouse, John, Ogontz.
Ruth, Aaron L., Conshohocken.
Scholl, Harvey F., Green Lane.
Scholl, Henry Nathaniel, Kulpsville.
Seiple, J. Howard, Center Square.
Shaner, Warren B., Pottstown.
Sharpe, John S., Haverford.
Sharpless, Frederic C., Rosemont.
Sheehan, William Coronata, Bethlehem Pike, Chestnut Hill.
Simpson, John C., 15 E. Airy St., Norristown.
Slifer, Henry F., North Wales.
Smyth, Henry Field, Wayne (Delaware Co.).
Stapp, H. Forsythe, Pottstown.
Stein, George W., Norristown.
Stein, Walter Jacob, Ardmore.
Taylor, Marianna, St. Davids (Delaware Co.).
Thomas, J. Quincy, Conshohocken.
Toland, William Arthur, Parker Ford.
Tunnell, Monroe H., 23 Prospect Ave., Bryn Mawr.
Tyler, Benjamin A., Royersford.
Van Buskirk, Frederick W., Pottstown.
Vedder, Wentworth D., Pottstown.
Watson, W. Stuart, Norristown.
Watson, William John, Cheltenham.
Weaver, Joseph K., Norristown.
Weber, Mathias Y., Lower Providence.
Whitman, Russell G., Conshohocken.
Wiley, S. Nelson, 612 N. Fifty-Fifth St., Philadelphia.
Wills, T. Edmund, Pottstown.
Wolfe, R. Vincent, Norristown.
Wright, Winfred J., Skippack.
Wylie, Charles R., 558 High St., Pottstown.
Yeakle, Walter A., Norristown.

MONTOUR COUNTY SOCIETY

(Organized June 15, 1874.)

President...H. L. Foss, Danville.
V. Pres.....E. T. Williams, Danville.
R. S. Patten, Danville.
Sec.-Rept.. Cameron Shultz, Danville.
Treasurer...James E. Robbins, Danville.
Censors.....H. B. Meredith, State Hosp., Danville.
George B. M. Free, State Hosp., Danville.
P. C. Newbaker, Danville.
Committee on Public Policy and Legislation:
Philip C. Newbaker, Danville.
E. B. Shellenberger, Danville.
J. H. Sandel, Danville.

Stated meetings in Danville the third Friday in January, March, May, June, August, October and November at 8 p. m. Election of officers in January.

MEMBERS (20)

Ashenhurst, Ida M., State Hospital, Danville.
Bitler, Benjamin E., Pottsgrove (Northum. Co.).
Foss, Harold L., Danville.
Free, George B. M., State Hospital, Danville.
Hammers, James S., State Hospital, Danville.
Hauser, Raymond J., Danville.
Keilty, Robert, Danville.

Mayberry, Charles B., Retreat (Luzerne Co.).
Meredith, Hugh B., State Hospital, Danville.
Nebinger, Reid, Danville.
Newbaker, Philip C., Danville.
Patten, Robert Swift, Danville.
Robbins, James E., State Hospital, Danville.
Sandel, John H., Danville.
Shearer, J. P., Danville.
Shellenberger, Edward B., State Hospital, Danville.
Shultz, Cameron, Danville.
Snyder, John Howard, Sunbury (Northum. Co.).
Struthers, John E., Danville.
Williams, Ernest T., Danville.

NORTHAMPTON COUNTY SOCIETY

(Organized July 10, 1849.)

President...Charles Collmar, Easton.
V. Pres.....Edwin D. Schnabel, Bethlehem.
Thomas Cope, Nazareth.
Rec. Sec....P. H. Kleinhans, Bethlehem.
Cor. Sec....Frank J. Hahn, Bath.
Treasurer...Clinton F. Stofflet, Pen Argyl.
Reporter....Henry C. Pohl, Nazareth.
Censors.....Noah W. Reichard, Bangor.
William P. Walker, South Bethlehem.
John C. Keller, Wind Gap.
Committee on Public Policy and Legislation:
Victor S. Messinger, Easton.
Thos. C. Zulick, Easton.
Wm. P. O. Thomason, Easton.
Exec. Com..Chas. Collmar, Easton.
Paul H. Kleinhans, Bethlehem.
Walter D. Chase, Bethlehem.

Meetings shall be held at 11 a. m. on the third Friday of every month except July and August at such places as the society may determine by vote. Outing meetings in August.

MEMBERS (127)

Anderson, George R., Easton.
Bachman, David F., South Bethlehem.
Beck, Charles E., Portland.
Beck, Richard H., Hecktown.
Beck, Senn Grim, Easton.
Beidelman, Edgar R., Bethlehem.
Betts, James A., 100 N. Seventh St., Easton.
Blank, Oscar F., Bethlehem.
Bloss, Raymond H., Bethlehem.
Burkhart, Herman A., 26 South Main St., Bethlehem.
Bush, Elmer E., Danielsville.
Butler, Thomas James, South Bethlehem.
Carty, Harry B., Freemansburg.
Chambers, Francis S., Easton.
Chase, Walter D., Bethlehem.
Collmar, Charles, Easton.
Condron, James J., 362 Berwick St., Easton.
Cope, Thomas, Nazareth.
Cope, William F., Easton.
Correll, Paul R., Easton.
Dech, Clarence E., 106 W. Fourth St., S. Bethlehem.
Dech, Elmer J., 5 North Fourteenth St., Easton.
Dech, Schuyler H., 118 South Third St., Easton.
Deibert, Edward J., Hellertown.
Dilliard, Benjamin F., East Bangor.
Edwards, H. Threlkeld, South Bethlehem.
Erwin, Francis H., Freemansburg.
Estes, Wm. L., 805 Delaware Ave., South Bethlehem.
Estes, William Lawrence, Jr., South Bethlehem.
Evans, E. William, Easton.
Farber, Wm. Daniel, 16-18 West Twenty-first St., Northampton.
Fetherolf, James Allen, Stockertown.
Field, Benjamin Rush, Easton.
Field, George B. Wood, Easton.
Finady, Wm. Aaron, 29 E. Fourth St., S. Bethlehem.
Fisler, Harry Cattell, Easton.
Fox, Arthur S., 1418 Washington St., Easton.
Fraunfelder, Jacob A., Nazareth.
Freed, Isadore E., 861 E. Fourth St., S. Bethlehem.
Fretz, John E., Easton.
Glick, Wm. H., 812 East Fourth St., South Bethlehem.
Green, Edgar M., Easton.
Guth, Henry E., 127 North Eighth St., Allentown (Lehigh Co.).
Hahn, Frank J., Bath.
Heller, Henry D., Hellertown.
Hoey, Rolla H., Easton.
Hoffman, Edward L., 1148 Northampton St., Easton.
Hoon, Leroy W., 116 South New St., Bethlehem.
Hunt, Joseph S., Easton.
Jones, Byron C., South Bethlehem.
Keller, David H., Bangor.
Keller, John C., Wind Gap.
Kern, Thomas B., Bethlehem.
Kessler, Frank J., 118 South Sixth St., Easton.
Kisner, Allen Oscar, Bethlehem.
Kleinhans, Paul Howard, Bethlehem.
Klock, Glenn G., Easton.
Koch, John G., Petersville.
Koch, Victor J., Nazareth.
Kotz, Adam L., Easton.
Krebs, Stanley A., 1817 Ferry St., Easton.
Laciar, Henry J., Bethlehem.
Leibert, Harry F., 532 E. Fourth St., S. Bethlehem.
Leigh, Herbert Crozier, 120 North Third St., Easton.
Longacre, Jacob E., Weaversville.
Love, J. King, Easton.
Ludlow, David Hunt, Easton.
McAvoy, James Bertrand, 727 East Third St., South Bethlehem.
McCormick, Cardinal Claude, Pen Argyl.
McCormick, Henry Edward, 61 N. Third St., Easton.
McIlhaney, William H., 602 Wilkes-Barre St., Easton.
McIntire, Charles, Easton.
Maysels, Alexander J., South Bethlehem.
Mazza, John Josiah Joseph, 9 Broadway, Bangor.
Messinger, Victor S., Easton.
Michler, Henry D., Easton.
Miesse, Kate DeWitt, Easton.
Miller, Elmer C., East Bangor.
Morganstern, James A., 137 South Third St., Easton.
Phillips, Milton W., Chapman Quarries.
Pohl, Henry C., Nazareth.
Quiney, James J., 309 Bushkill St., Easton.
Raub, Ruben S., 914 Northampton St., Easton.
Reagan, Arthur D., Easton.
Reaser, Budd Jamison, Martins Creek.
Reichard, Noah W., Bangor.
Rentzheimer, William H., Hellertown.
Richards, Ellerslie Wallace, South Easton.
Richards, Oscar M., South Easton.
Roberts, Frederick C., Easton.
Rosenberry, Edward S., Stone Church.
Royce, Clayton E., St. Luke's Hospital, S. Bethlehem.
Ruch, Asher George, 316 West Broad St., Bethlehem.
Santee, Delbert Kansas, South Bethlehem.
Schmoyer, Herbert John, Bethlehem.
Schnabel, Edwin D., Bethlehem.
Schwab, Thomas Wesley, Bath.
Schwarz, Paul E., 1004 Washington St., Easton.
de Schweintz, George L., 169 E. Broad St., Bethlehem
Sheridan, Rose B., South Bethlehem.
Sherrer, Frederick A., Easton.
Shiffer, Leigh B., Easton.
Shimer, Sterling D., Easton.
Shoudy, Loyal A., Bethlehem.
Smock, E. L., Bath, R. D. 2.
Smythe, W. A., 836 Broad St., Bethlehem.
Snyder, Fred D., 127 North Eighth St., Allentown (Lehigh Co.).
Stem, Preston E., 435 Wyandotte St., S. Bethlehem.
Stofflet, Clinton F., Pen Argyl.

Struthers, Clayton P., 1823 Ferry St., Easton.
Swan, Tyrus E., Easton.
Thomason, William P. O., Easton.
Tillman, W. Gilbert, 1803 Washington St., Easton.
Uhler, Stewart Mann, Pen Argyl.
Uhler, Sydenham P., Easton.
Uhler, Tobias M., 2219 North Thirteenth St., Philadelphia.
Updegrove, Harvey C., Easton.
Updegrove, Jacob D., Easton.
Villochi, Louis James, 27 South Second St., Easton.
Walker, William P., South Bethlehem.
Walter, Mitchell, 102 W. Fourth St., S. Bethlehem.
Walter, Robley D., 903 Ferry St., Easton.
Ward, Frederick E., 1119 Ferry St., Easton.
Weaver, Henry F., Easton.
Welden, Carl F., Bethlehem.
Yost, Robert J., Fourth and Vine Sts., W. Bethlehem.
Zulick, Thomas C., Easton.

NORTHUMBERLAND COUNTY SOCIETY

(Reorganized Nov. 27, 1903.)

President...William H. Eister, 1029 Line St., Sunbury.
V. Pres.....George A. Deitrick, Sunbury.
Amos B. Schnader, Mt. Carmel.
Secretary...Charles H. Swenk, 235 Market St., Sunbury.
Asst. Sec.-Treas.....Robert B. McCay, Sunbury.
Censors.....Lester E. Schoch, Shamokin.
Charles W. Rice, Northumberland.
Harry T. Simmonds, Shamokin.
Committee on Public Policy and Legislation:
Horatio W. Gass, Sunbury.
George W. Reese, Shamokin.
Joseph E. Ratajaski, Mt. Carmel.
Committee on Health:
John B. Cressinger, Sunbury.
Richard H. Simmons, Shamokin.
E. Roger Samuel, Mt. Carmel.

Stated meetings at 2 p. m. in Sunbury, the first Wednesday of January, March, May, September and November; and in Shamokin, at 1 p. m., the first Wednesday in February, April, June, October and December. Annual meeting in January.

MEMBERS (57)

Allison, Charles Edward, Elysburg.
Bealor, Benjamin A., 505 North Sixth St., Shamokin.
Becker, Harvey M., 49 South Fourth St., Sunbury.
Burg, Stoddard Somers, Northumberland.
Campbell, Chas. F., 514 Market St., Sunbury.
Cooner, Charles C., Kulpmont.
Cressinger, John Brice, 243 Market Sq., Sunbury.
Deitrick, George A., Sunbury.
Dietz, Charles K., 223 West Spruce St., Shamokin.
Drumheller, Francis E., 134 Chestnut St., Sunbury.
Eister, W. Howard, 1029 Line St., Sunbury.
Fagley, Raymond C., Kulpmont.
Flanagan, Michael J., 307 N. Shamokin St., Shamokin.
Gass, Horatio W., 910 Market St., Sunbury.
Geise, Samuel B., 239 Chestnut St., Sunbury.
Graham, William T., 244 Market Sq., Sunbury.
Heilman, D. Franklin, Northumberland.
Hollenback, David S., 56 East Independence St., Shamokin.
Holt, Lloyd Mott, 146 East Sunbury St., Shamokin.
Hughes, James A., 213 West Third St., Mt. Carmel.
Jones, Adna S., 415 Spurzheim St., Shamokin.
Kalloway, Sidney, Shamokin.
Karterman, William D., Hepler (Schuylkill Co.).
Knights, Agnes Sholly, Selins Grove (Snyder Co.).
Lyons, Fowler, Turbotville.
McCay, Robert B., 228 Chestnut St., Sunbury.
McDonnell, John W., 16 North Fourth St., Sunbury.
McWilliams, Kimber C., 219 E. Dewart St., Shamokin.
Malick, Clarence Hiram, Herndon.
Malone, Clarence M., Sunbury and Liberty Sts., Shamokin.
Maurer, James M., 319 East Sunbury St., Shamokin.
Mengel, John S., Trevorton.
Mohn, James O., Shamokin, R. D. 1.
Moody, William W., 140 Arch St., Sunbury.
Nickel, J. Edward, 202 Fairmont Ave., Sunbury.
Peril, Hyman H., Mt. Carmel.
Raker, Frederick D., 42 East Independence St., Shamokin.
Ranck, Lee Russell, Milton.
Ratajski, Joseph E., Mt. Carmel.
Reese, George W., State Hospital, Shamokin.
Rice, Charles W., 63 Queen St., Northumberland.
Rice, Fred, 256 Arch St., Sunbury.
Salters, Oscar E., Shamokin.
Samuel, E. Roger, Third and Hickory Sts., Mount Carmel.
Schnader, Amos B., Mount Carmel.
Schoch, Lester Edgar, 217 E. Sunbury St., Shamokin.
Schoffstall, Joseph W., 248 Market St., Sunbury.
Simmonds, Henry Thomas, 48 North Market St., Shamokin.
Simmons, Richard H., 116 Sixth St., Shamokin.
Smink, Alfred H., 2 South Market St., Shamokin.
Steck, Fred P., Malick Bldg., Shamokin.
Strickland, James G., 25 S. Shamokin St., Shamokin.
Swenk, Charles H., 235 Market St., Sunbury.
Thomas, Charles Meade, 11 N. Fourth St., Sunbury.
Vastine, John H., 78 East Sunbury St., Shamokin.
Weimer, Clay H., 200 East Dewart St., Shamokin.
Wilkinson, Boyd E., Treverton.

PERRY COUNTY SOCIETY

(Organized Nov. 19, 1849.)

President...Henry O. Orris, Newport.
V. Pres.....G. H. M. Bogar, Liverpool.
J. A. Sheibly, Shermans Dale.
Sec.-Treas..Lenus A. Carl, Newport.
Reporter....B. F. Beale, Duncannon.
Censors.....E. E. Moore, New Bloomfield, 3 yrs.
J. A. Sheibly, Shermans Dale, 2 yrs.
C. E. Delancy, Newport, 1 yr.

Annual meeting at New Bloomfield second week in January. Monthly meetings at places and times selected.

MEMBERS (21)

Beale, Benjamin F., Duncannon.
Bogar, George H. M., Liverpool.
Carl, Lenus A., Newport.
Delancy, Charles E., Newport.
Gault, George Washington, Marysville.
Gearhart, Montgomery, Millerstown.
Johnston, A. Russell, New Bloomfield.
Kinzer, George S., Ickesburg.
Kistler, Edwin C., Blain.
Moore, Edward E., New Bloomfield.
Morris, William G., Liverpool.
Morrow, William T., Loysville.
Orris, Henry O., Newport.
Patterson, Frank, Med. Exmr. P. R. R., Huntingdon. (Hunt. Co.).
Reifsnyder, Elizabeth, Liverpool.
Sheibly, John A., Shermans Dale.
Snyder, Charles, Marysville.
Snyder, E. Walton, Marysville.
Stein, Maurice Isaac, New Bloomfield.
VanDyke, Arthur D., Renovo (Clinton Co.).
Woods, Harvey M., Blain.

PHILADELPHIA COUNTY SOCIETY

(Organized 1849. Incorporated Oct. 2, 1877.)

(Philadelphia is the postoffice when street address only is given.)

President...B. Franklin Stahl, 1727 Pine St.
V. Pres.....John W. West, 1125 Wallace St.
Associate Vice Presidents:
  South Branch: Joseph Farley, 1919 S. Broad St.
  Kensington Branch: Peter P. Klopp, 618 W. Lehigh Ave.
  West Branch: J. Morton Boice, 4020 Spruce St.
Secretary...J. Morton Boice, 4020 Spruce St.
Asst. Sec. and Clerk of Board of Directors:
  John B. Turner, Professional Bldg.
Treasurer...Edward A. Shumway, 2046 Chestnut St.
Censors:
  Jay F. Schamberg, 1922 Spruce St., 5 yrs.
  William M. Welch, 1411 Jefferson St., 4 yrs.
  William E. Hughes, 3945 Chestnut St., 3 yrs.
  Lewis H. Adler, Jr., 1610 Arch St., 2 yrs.
  Judson Daland, 317 S. 18th St., 1 yr.
Directors:
  Moses Behrend, 1427 N. Broad St., 1922.
  Paul J. Pontius, 1831 Chestnut St., 1922.
  John F. Roderer, 2426 N. Sixth St., 1922.
  William E. Parke, 1739 N. 17th St., 1921.
  George A. Knowles, 4812 Baltimore Ave., 1921.
  F. Hurst Maier, 2035 Chestnut St., 1921.
  Paul B. Cassidy, 817 S. 21st St., 1920.
  Benjamin F. Devitt, 1503 N. 15th St., 1920.
  Samuel Horton Brown, 1901 Mt. Vernon St., 1920.

Committees.

Public Policy and Legislation:
  L. Webster Fox, Chairman, 303 S. 17th St.
  Frank Woodbury, Bulletin Bldg.
  William S. Higbee, 1703 S. Broad St.
  Samuel Horton Brown, 1901 Mt. Vernon St.
  Arthur C. Morgan, 3118 Diamond St.
Library:
  James M. Anders, Chairman, 1605 Walnut St.
  Albert E. Blackburn, 3813 Powelton Ave.
  Maurice J. Karpeles, 146 W. Chelten Ave., Germantown.
  Norman L. Knipe, 701 S. 52d St.
  Alice M. Seabrook, 22d & N. College Ave.
  Robley D. Snively, 1709 Tioga St.
  Samuel A. Loewenburg, 1626 Spruce St.
Increase of Membership:
  John Welsh Croskey, Chairman, 1909 Chestnut St.
  Thomas C. Ely, 2041 Green St.
  Edward J. Moore, 1619 Arch St.
  Howard A. Sutton, 314 S. 15th St.
  George Wilson, 5000 Walnut St.
Public Health and Preventive Medicine:
  John W. West, Chairman, 1125 Wallace St.
  Charles W. Bonney, 1117 Spruce St.
  Rae S. Dorsett, 4027 Girard Ave.
  Edwin S. Cooke, 1831 Chestnut St.
  John A. Kolmer, 927 S. St. Bernard St.
  Charles Scott Miller, 1218 Wyoming Ave.
  Harry F. Weber, 4601 Wayne Ave.
Archives:
  Albert M. Eaton, Chairman, 2017 N. 13th St.
  William T. Hamilton, 932 W. Lehigh Ave.
  Joseph D. Farrar, 1944 N. Broad St.
  Samuel P. Gerhard, 639 N. 16th St.
  Christian B. Longenecker, 3416 Baring St.
Physical Deformity:
  J. P. Mann, Chairman, 1234 Spring Garden St.
  A. Bruce Gill, 13th and Spruce Sts.
  William Jackson Merrill, Medical Arts Bldg.
  Harry Hudson, 1602 Erie Ave.
  T. Turner Thomas, 1905 Chestnut St.
  Howard Reed, 1829 Diamond St.
  DeForest P. Willard, 139 W. Baltimore Ave., Lansdowne.
Cancer and Contagious Skin Diseases:
  John G. Clark, Chairman, 2017 Walnut St.
  Jay F. Schamberg, 1922 Spruce St.
  Andrew A. Cairns, S. E. Cor. Midary Ave. and 7th St., Fern Rock.
  Ernest Laplace, 1828 S. Rittenhouse Sq.
  George E. Pfahler, 1321 Spruce St.
  Milton B. Hartzell, 3644 Chestnut St.
Hospital Efficiency Conference:
  John M. Baldy, Chairman, 2219 Delancey St.
  William R. Nicholson, 1731 Pine St.
  Wilmer Krusen, 127 N. 20th St.
  Thomas McCrae, 1627 Spruce St.
  S. Lewis Ziegler, 1625 Walnut St.
Cooperative Allied Agencies and Institutions and Increased Attendance:
  Wm. Duffield Robinson, Chairman, 2012 Mt. Vernon St.
  George S. Pilling, 4044 Chestnut St.
  Edward J. Moore, 1619 Arch St.
  Penn G Skillern, 241 S. 13th St.
  Seneca Egbert, 4814 Springfield Ave.
  Irving W. Hollingshead, 123 S. 18th St.
Reception of Prominent Medical Visitors and Medical Institutions:
  John B Deaver, Chairman, 1634 Walnut St.
  William E. Hughes, 3945 Chestnut St.
  Judson Daland, 317 S. 18th St.
  Charles H. Frazier, 1724 Spruce St.
  Albert E. Roussel, 2108 Pine St.
  William M. Sweet, 1205 Spruce St.
  J. Madison Taylor, 1504 Pine St.
Alleged Malpractice:
  Harvey E. Schock, Chairman, 2048 Pine St.
  Samuel M. Wilson, 1515 Arch St.
  Charles S. Barnes, 2035 Chestnut St.
  Dudley T. Cooke, 1536 S. Broad St.
  A. Wiese Hammer, 902 N. 41st St.
  Charles J. Hoban, 1609 S. Broad St.
  Stephen E. Tracy, 1527 Spruce St.
Vision and Hearing:
  William Zentmayer, Chairman, 1506 Spruce St.
  Mary Buchanan, 2106 Chestnut St.
  Louis J. Burns, 1906 Chestnut St.
  Ralph Butler, 4606 Spruce St.
  Clarence P. Franklin, Ambulance Camp, Allentown.
  William A. Hitschler, Med. Arts Bldg., N. W. Cor. 16th and Walnut Sts.
  C. W. LeFever, 1708 Pine St.
  Luther C. Peter, 1529 Spruce St.
Tuberculosis:
  Albert P. Francine, Chairman, 264 S. 21st St.
  Ward Brinton, 1423 Spruce St.
  Frank A. Craig, 244 S. 21st St.
  Elmer H. Funk, 1318 Spruce St.
  H. B. Allyn, 501 S. 42d St.
  E. J. G. Beardsley, 258 S. 16th St.
  Samuel Wolfe, 1701 Diamond St.
Infant Mortality:
  Alfred Hand, Jr., Chairman, 1724 Pine St.
  William N. Bradley, 1638 S. Broad St.
  Nellie Cameron Craig, 5412 Chestnut St.
  John F. Sinclair, 4103 Walnut St.
  Harriet L. Hartley, 1534 N. 15th St.
  H. Brooker Mills, 1411 Spruce St.
  A. Graeme Mitchell, 1805 Pine St.
  Howard Childs Carpenter, 1805 Spruce St.
Narcotics:
  S. Solis-Cohen, Chairman, 1525 Walnut St.
  J. Hamilton Small, 1725 Cherry St.
  Albert C. Buckley, Friends Hosp., Fkd.
  Joseph C. Doane, Phila. Gen. Hosp., 34th and Pine Sts.

John H. Musser, 121 S. 20th St.
Gordon J. Saxon, 1411 Walnut St.
Horatio C. Wood, Jr., 1905 Chestnut St.

Mental and Nervous Diseases:
Charles K. Mills, Chairman, 1909 Chestnut St.
Max H. Bochroch, 1539 Pine St.
Charles W. Burr, 1918 Spruce St.
D. J. McCarthy, 2025 Walnut St.
Joseph McIver, 157 Cricket Ave., Ardmore.
J. Allen Jackson, Phila. Hosp for Insane.
Theodore H. Weisenburg, 1909 Chestnut St.

Public Education:
Henry R. M. Landis, Chairman, 11 S. 21st St.
Richard C. Norris, 500 N. 20th St.
Hobart A. Hare, 1801 Spruce St.
Louis Lehrfeld. 702 S. 60th St.
William E. Robertson, 327 S. 17th St.
J. Edwin Sweet, 301 St. Marks Sq.

Home of the Society:
E. E. Montgomery, Chairman, 1426 Spruce St.
James M. Anders, 1605 Walnut St.
Francis X. Dercum, 1719 Walnut St.
Levi Jay Hammond, 1222 Spruce St.
Barton Cooke Hirst, 1821 Spruce St.
Isidor P. Strittmatter, 999 N. Sixth St.

Food, Beverages and Drugs:
Francis J. Dever, Chairman, 319 S. 18th St.
Clifford B. Farr, 4420 Spruce St.
Thomas R. Currie, 512 W. Lehigh Ave.
Russell E. Boles, Overbrook Ave. and 53d St., Wynnefield.
John H. W. Rhein, 1732 Pine St.
C. N. Sturtevant, 4321 Frankford Ave.
Marion H. Rea, Bryn Mawr Col., Bryn Mawr.

Public Utilities:
McCluney Radcliffe, Chairman, 1906 Chestnut St.
Benjamin D. Parish, 7318 Bryan St., Mt. Airy.
Samuel C. Falls, 743 N. 63d St.
George D. Fussell, 421 Lyceum St.
John J. Gilbride, 1934 Chestnut St.
George Sinnamon, 2204 E. York St.

Ethics and Medical Economics:
Henry Beates, Jr., Chairman, 260 S. 16th St.
Paul F. Bremer, 839 N. Broad St.
Samuel Bolton, 4701 Leiper St.
Howard D. Geisler, 35 High St., Germantown.
Wm. Harmar Good, 5309 Rising Sun Ave.
Octavius P. Large, 29th St. and Susquehanna Ave.
Charles E. Price, 316 N. 52d St.

Medical Education:
David Riesman, Chairman, 1715 Spruce St.
R. Max Goepp, 124 S. 18th St.
Addinell Hewson, 2120 Spruce St.
Ross V. Patterson, 340 S. 16th St.
John H. Jopson, 1824 Pine St.
M. Howard Fussell, 2035 Walnut St.
William A. Pearson.

Delegates to Chamber of Commerce:
B. Franklin Stahl, 1727 Pine St.
Wilmer Krusen, 127 N. 20th St.

Stated meetings for business the third Wednesday of January, April, June and October, at 8:15 p. m. Election of officers in January. Scientific meetings the second and fourth Wednesdays of each month, except July and August and the fourth Wednesday of June and the second Wednesday of September, at 8:30 p. m., all at the College of Physicians, Twenty-Second and Ludlow Streets.

North Branch.

Chairman...Mervyn Ross Taylor, 1823 Spring Garden St.
Clerk.......Henry J. Bartle, 1727 N. 17th St.

Meets the fourth Mohday night, at the Auditorium of the Philadelphia Clinical Association, 1520 N. Fifteenth St.

South Branch.

Chairman...John H. Remig, 805 S. 12th St.
Clerk.......R. Powers Wilkinson, 1312 S. Broad St.

Meets the fourth Friday night, at 1301 S. Broad Street.

Kensington Branch.

Chairman...George C. Yeager, 1419 E. Susquehanna Ave.
Clerk.......William N. Ferguson, Jr., 2725 N. 5th St.

Meets the first Friday night, at the Lehigh Avenue Branch of the Free Library of Philadelphia, Lehigh Avenue and Sixth Street.

West Branch.

Chairman...D. Randall MacCarroll, 915 S. 47th St.
Clerk.......Ralph Getelman, 2011 Chestnut St.

Meets the third Tuesday night, at the Presbyterian Hospital, Filbert and Thirty-Ninth Streets.

Northeast Branch.

Chairman...D. Pellman Boyer, 4747 Richmond St.
Clerk.......Robert B. Cobb, 3302 Comly St.

Meets the third Thursday night, at the Frankford Branch of the Free Library of Philadelphia, Frankford Avenue and Overington Street.

Northwest Branch.

Chairman...Norris W. Vaux, 8901 Germantown Ave., C. H.
Clerk.......Elbert O. Day, 27 Carpenter Lane, Mt. Airy.

Meets the fourth Thursday night, at the Germantown Branch of the Free Library of Philadelphia, Vernon Park, Germantown Avenue, above Chelten Avenue.

Southeast Branch.

Chairman...Henry B. Shmookler, 1320 S. Fifth St.
Clerk.......Louis Edeiken, 2412 S. Fifth St.

Meets the first and third Thursday nights, at the Southwark Branch of the Free Library of Philadelphia, Fifth and Ellsworth Streets.

All branches meet at 9 p. m., monthly except July and August.

This society publishes a program of the medical meetings of the various societies for the week, from September to July, inclusive, the editor of which is C. B. Longenecker, 3416 Baring St.

The society also has a Medical Defense Fund of its own for which purpose 25 cents is laid aside for each member, the membership being based on the number of members in good standing on August 31 of each year. The Hon. Hampton L. Carson is attorney for this medical defense feature.

MEMBERS (1,654)

Aarons, Bernard B. H., 1854 North Thirteenth St.
Abbott, Alexander C., 4229 Baltimore Ave.
Abbott, Frank Cook, 6108 Carpenter St.
Abramovitz, Max, Philadelphia General Hospital.
Adams, Charles T., 5701 Girard Ave.
Adler, Lewis H., Jr., 1610 Arch St.
Albrecht, Herman E., 217 South Forty-sixth St.
Albright, Markley Connel, 2146 South Broad St.
Alexander, Emory G., 1627 Oxford St.
Allen, Francis Olcott, Jr., 2216 Walnut St.
Allen, Jesse Hall, 1327 Spruce St.
Allen, Leo Barton, 2423 West Allegheny Ave.
Allen, Luther M., 3100 Wharton St.
Allyn, Herman B., 2044 Chestnut St.
Alrich, William Marshall, 6829 Chew St., Germantown.
Anders, Andrew, 1708 Diamond St.
Anders, James M., 1605 Walnut St.
Anders, J. Wesley, 1329 West Somerset St.
Anderson, Joseph W., 1709 Green St.
Andrus, Walter Haskell, 5913 Greene St., Germantown.
Ankeney, Clinton R., 803 North Twenty-fourth St.
Annesley, William H., 2601 East Lehigh Ave.

Anspach, Brooke M., 1827 Spruce St.
Antunovic, Nedjelko, 1616 North Twenty-ninth St.
Apeldorn, Ernest F., 2113 North Howard St.
Applegate, John C., 3540 North Broad St.
Appleman, Leighton F., 308 South Sixteenth St.
Armstrong, Thomas Morell, 1429 Christian St.
Arnett, James H., 2540 North Eleventh St.
Arnold, Jesse O., 4149 North Broad St.
Arnold, M. U. Huneker, The Lenox, Thirteenth and Spruce Sts.
Aronson, Joseph D., 3029 Frankford Ave.
Artelt, Henry, 1521 North Eighth St.
Artman, E. Louis, 1528 Master St.
Asher, Joseph M., 1335 North Broad St.
Ashton, William E., 2011 Walnut St.
Asnis, Eugene J., 1809 Wallace St.
Assante, Pasquale, 1335 South Broad St.
Astley, G. Mason, 5211 Girard Ave.
Atkins, Geo. H., 1727 South Broad St.
Atkinson, Thomas H., 2101 North Franklin St.
Atlee, Lewis W., 2039 Pine St.
Attix, James C., 2355 North Thirteenth St.
Auge, Emily G. Whitten, 2734 Wharton St.
Austin, J. Harold, 3400 Spruce St. (University Hosp.).
Austin, J. Paul, 5915 Greene St., Germantown.
Averett, Leonard, 1016 North Sixth St.
Axilbund, Samuel, 5802 Cedar Ave.
Babbitt, James A., 1901 Chestnut St.
Babcock, W. Wayne, 2033 Walnut St.
Bachman, H. S., 2016 North Second St.
Bacon, H. Augustus, 1527 Girard Ave.
Bacon, William D., 409 North Fifty-fourth St.
Baer, Benjamin F., Jr., 2039 Chestnut St.
Baer, Benjamin F., 2115 Chestnut St.
Baer, Louis, 2248 South Ninth St.
Bailey, Edwin Chapin, 710 Flanders Bldg., Fifteenth and Walnut Sts.
Bailey, Robert Wellesley, 102 East Price St., Gtn.
Bainbridge, Empson H., 1425 Poplar St.
Baker, Frank K., 3019 Diamond St.
Baker, Geo. Fales, 1818 Spruce St.
Baldi, Frederick S., 2124 West Passyunk Ave.
Baldwin, James H., 1426 Pine St.
Baldwin, Kate W., 1117 Spruce St.
Baldy, J. Montgomery, 2219 Delancey St.
Balentine, Percy L., 2117 Chestnut St.
Ball, Joseph P., 5001 Frankford Ave.
Balliet, Tilgham M., 3709 Powelton Ave.
Barcus, Adolph L., 923 North Eighth St.
Bardsley, Chester Arthur, 2016 East Allegheny Ave.
Bardsley, G. Ashton, 129 West Susquehanna Ave.
Bare, Horace C., 2104 Green St.
Barenbaum, Louis, 519 North Fourth St.
Barlow, Aaron, 1431 North Franklin St.
Barlow, Louis E., 3113 Richmond St.
Barnard, Everett P., 119 South Nineteenth St.
Barnett, Charles H. J., 812 South Fifteenth St.
Bartle, Henry J., 132 South Seventeenth St.
Barton, Isaac, 2044 Chestnut St.
Bateman, Sydney E., 42 South Fifty-First St.
Bates, Hervey L., 134 Manheim St., Germantown.
Batroff, Warren C., 2456 North Seventeenth St.
Bauer, Charles, 1335 North Thirteenth St.
Bauer, Edward Louis, 6112 Germantown Ave.
Bauer, L. Demme, 1713 West Girard Ave.
Bauer, Marie L., 1613 Fairmount Ave.
Baun, William D., 2542 West Girard Ave.
Baxter, Ada Russell, Baxter Bldg., 1414 S. Penn Sq.
Baxter, Hart B., 1422 Christian St.
Beach, Edward W., 5401 Spruce St.
Beardsley, Edward J. G., 258 S. Sixteenth St.
Beardwood, Matthew, Jr., 5504 Ridge Ave., Rxb.
Beates, Henry, Jr., 260 S. Sixteenth St.
Becker, Carl Emil, Lankenau Hosp., Corinthian and Girard Aves.
Becker, John B., 5211 Chester Ave.
Beckley, Aller G., 2836 Columbia Ave.
Behrend, Moses, 1427 N. Broad St.
Bell, Edward H., 739 Spruce St.
Beltran, Basil R., 1828 S. Rittenhouse Sq.
Bemis, Royal W., 2512 N. Fifth St.
Bender, Engelbert C., 330 S. Fifty-Second St.
Benedict, Franklin Duffield, 2503 N. Eighteenth St.
Bennett, John, 5911 Girard Ave.
Bennett, William A., 8008 Frankford Ave., Holmesburg.
Berens, Bernard, 2041 Chestnut St.
Berens, Conrad, 2004 Chestnut St.
Bergeron, P. Norbert, 1908 W. Girard Ave.
Bergey, David H., 206 S. Fifty-Third St.
Bernardy, Henry L., 321 S. Eleventh St.
Bernd, Leo H., 2106 Chestnut St.
Bernheim, Albert, 1225 Spruce St.
Bernstein, Mitchell, 1437 S. Broad St.
Bethel, John Percy, 1825 Fairmount Ave.
Beyea, Henry D., Roanes, Gloucester Co., Va.
Biedert, Charles C., 1531 N. Seventeenth St.
Billings, Arthur Eugene, 252 S. Sixteenth St.
Binder, Israel, 813 S. Third St.
Bird, Gustavus C., 1415 Erie Ave.
Birdsall, Joseph C., 116 S. Sixteenth St.
Bishop, Aaron Lafayette, 5324 Vine St.
Blackwood, J. Douglas, Jr., 5346 Wayne Ave., Gtn.
Blakeslee, Walter H., 3328 N. Seventeenth St.
Bland, P. Brooke, 1621 Spruce St.
Blayney, Charles A., 5009 Walnut St.
Blieden, Maurice S., 1318 S. Fifth St.
Blitzstein, Rosalie M., 4122 Girard Ave.
Block, Frank Benton, The Lorraine, Broad St. and Fairmount Ave.
Bloom, Homer C., 1421 Walnut St.
Bloomfield, Maxmilian D., 2008 N. Park Ave.
Blumberg, Nathan, 708 Pine St.
Bobb, Wallace G., 15th and Allegheny Ave.
Bochroch, Max H., 1539 Pine St.
Boehringer, H. Winfield, 1811 S. Twenty-Second St.
Bogart, Arthur E., 5046 Market St.
Boger, John A., 2213 N. Broad St.
Boice, J. Morton, 4020 Spruce St.
Boles, Russell S., Overbrook Ave. and Fifty-Third St., Wynnefield.
Bolin, Jesse A., 3517 Longshore St., Tacony.
Bolin, Zera Exley, 3517 Longshore St., Tacony.
Bolton, Samuel, 4701 Leiper St., Fkd.
Bond, Earl Danford, 4401 Market St.
Bonnaffon, Samuel A., 1206 Rodney St., Wilmington, Del.
Boon, W. Thomas, 215 Green Lane, Manayunk.
Borrowes, George H., 702 E. Westmoreland St.
Borzell, Francis F., 900 E. Westmoreland Ave.
Boston, Frank E., 813 N. Sixteenth St.
Boston, L. Napoleon, 1819 Chestnut St.
Boston, Samuel Clifford, 2249 Catharine St.
Boulton, Eleanore F., P. O. Box 638.
Bove, Anthony D., 1407 S. Thirteenth St.
Bowen, Clement R., 752 S. Sixtieth St.
Bowen, David R., Fifteenth and Locust Sts.
Bower, Collier Levis, 255 S. Sixteenth St.
Bower, Franklin S., 3318 Germantown Ave.
Bowman, Frank S., 1711 S. Thirteenth St.
Bowne, Charles J., 601 Olney Ave.
Bowyer, Maude A., 254 S. Sixteenth St.
Boyd, George M., 1909 Spruce St.
Boyer, D. Pellman, 4747 Richmond St.
Boyer, Henry Percival, 4602 Baltimore Ave.
Boyer, J. Clinton, 745 S. Third St.
Boyer, Merle S., 108 S. Fourth St.
Boyer, Robert, 2420 N. Broad St.
Bradley, William N., 1825 Chestnut St.
Brady, Charles P., 7130 Rising Sun Ave., Fox Chase.
Brady, Franklin, 1815 Frankford Ave.
Bram, Israel, 1714 N. Seventh St.
Bransfield, J. William, 2025 Walnut St.
Brav, Aaron, 917 Spruce St.
Brav, Herman A., 1933 N. Broad St.
Bready, William R., Jr., 1857 N. Eleventh St.
Bremer, Paul F., 839 North Broad St.
Brenner, Maxwell B., 2919 Richmond St.
Brick, J. Coles, 1327 Spruce St.

Bricker, Charles E., 2739 Girard Ave.
Bricker, Sacks, 1101 Wyoming Ave.
Bridgett, Charles R., 3332 Chestnut St.
Brinkerhoff, Nelson M., 1831 Chestnut St.
Brinton, Ward, 1423 Spruce St.
Brister, Samuel, 1946 N. Thirty-Second St.
Brittingham, James D., 4002 Chestnut St.
Britton, Harry A., Minneapolis City Hospital, Minneapolis, Minn.
Broadfield, John Augustus, 3131 Frankford Ave.
Brooke, Emma W., 1423 Locust St.
Brooks, Macy, 1321 Spruce St.
Broomall, Harold S., 7201 Cresheim Rd., Mt. Airy.
Brophy, John A., 1819 Chestnut St.
Brown, Claude P., 30 E. Logan Ave., Glenolden (Del. Co.).
Brown, Frederick K., 1425 S. Broad St.
Brown, Henry P., Jr., 8030 St. Martin's Lane, Chestnut Hill.
Brown, H. MacVeagh, 4608 Baltimore Ave.
Brown, Maurice, 4905 N. Twelfth St.
Brown, Samuel Horton, Jr., 1901 Mt. Vernon St.
Brown, William Richard, Jr., 2345 E. Cumberland St.
Brubaker, Albert P., 3426 Powelton Ave.
Bruck, Samuel, 1918 N. Franklin St.
Brumbaugh, Simon S., 2923 N. Twelfth St.
Brumm, Seth Arthur, 4813 Baltimore Ave.
Bruner, Henry G., 542 N. Eleventh St.
Buchanan, Mary, 2106 Chestnut St.
Buchanan, Thomas J., 930 Fairmount Ave.
Buckenham, John E. B., Municipal Hospital.
Buckley, Albert C., Friends Hospital, Fkd.
Bundy, Elizabeth R., 1831 Chestnut St.
Bunting, Josiah T., 6410 Germantown Ave.
Burke, Joseph J., 5117 Baltimore Ave.
Burke, Richard David, 515 Green St.
Burns, Joseph P., 5231 Chester Ave.
Burns, Louis J., 1906 Chestnut St.
Burns, Michael A., 900 N. Forty-Eighth St.
Burns, Stillwell C., 1326 Spring Garden St.
Burr, Charles W., 1918 Spruce St.
Burriss, Walton S., 6645 Torresdale Ave., Tacony.
Burwell, T. Spotuas, 2008 Fitzwater St.
Busch, John William, 2500 S. Eighteenth St.
Butler, Margaret F., 2127 Green St.
Butler, Ralph, 1926 Chestnut St.
Butt, Miriam M., 1701 Chestnut St.
Butz, Alfred S., 735 N. Forty-First St.
Buzby, B. Franklin, Swedesboro, N. J.
Cadwalader, William B., 1711 Locust St.
Cahall, William C., 154 W. Chelten Ave., Gtn.
Cahan, Jacob M., 930 N. Eleventh St.
Cairns, Andrew A., S. W. Cor. Medary Ave. and Seventh St., Fern Rock.
Callahan, Andrew, 1829 S. Broad St.
Cameron, George A., Greene St. and Schoolhouse Lane, Gtn.
Cameron, John L., 1500 Girard Ave.
Carmany, Harry S., 366 Green Lane, Rxb.
Carnett, John B., 123 S. Twentieth St.
Carpenter, Herbert B., 1805 Spruce St.
Carpenter, Howard C., 1805 Spruce St.
Carpenter, John T., Jr., 2039 Chestnut St.
Carpenter, Samuel A., 2265 N. Sixteenth St.
Carr, Charles D., 1917 Spruce St.
Carrell, James Fell, 330 S. Seventeenth St.
Carrier, Frederic, 406 South Sixteenth St.
Carroll, William, 617 S. Sixteenth St.
Carruthers, Georgiana H., 3064 Frankford Ave.
Carson, John Baker, 1610 Spruce St.
Carter, Andrew D., 753 N. Fortieth St.
Case, Eugene Allen, 49 W. Lacrosse Ave., Lansdowne (Del. Co.).
Cassidy, Paul B., 817 S. Twenty-First St.
Catford, D. Wood, 2901 N. Twenty-Fourth St.
Cattell, Henry W., 3709 Spruce St.
Chaiken, Jacob B., 1338 N. Franklin St.
Chance, Burton, 255 S. Thirteenth St.
Chandler, Charles Frederick, 1750 N. Park Ave.
Chandler, Swithin, 119 S. Twentieth St.
Chapin, Laura S., 1724 Diamond St.
Chapman, John P., Sixth and Walnut Sts.
Chestnut, James C., 1817 Frankford Ave.
Cheston, Radcliffe, 102 W. Chestnut Ave., C. H.
Child, Dorothy, 5023 McKean Ave., Gtn.
Child, Florence C., 5023 McKean Ave., Gtn.
Chirinos, Frederick C., 2656 E. Allegheny Ave.
Chodoff, Louis, 705 Pine St.
Christine, Gordon M., 2043 N. Twelfth St.
Ciccone, G. Vico, 1409 S. Broad St.
Clagett, Augustus H., 2615 N. Twenty-Ninth St.
Clapp, George H., 1831 Chestnut St.
Clark, Benjamin F. R., Palmerton (Carbon Co.).
Clark, Elizabeth E., 252 High St., Gtn.
Clark, Elizabeth F. C., 22d and Delancey Sts.
Clark, George G., 2221 N. Sixteenth St.
Clark, Jefferson Hamer, Samaritan Hosp., Broad and Ontario Sts.
Clark, John G., 2017 Walnut St.
Clark, William L., Medical Arts Bldg., Sixteenth and Walnut Sts.
Cleveland, F. Mortimer, 5211 Walnut St.
Cloud, Charles H., 14 N. Sixtieth St.
Coates, George M., 1736 Pine St.
Coates, Thomas Gordon, 1413 Lombard St.
Codman, Charles A. E., 4116 Spruce St.
Cogill, Lida Stewart, 1831 Chestnut St.
Cohen, Abraham J., 723 Pine St.
Cohen, Herman B., 1301 Spruce St.
Cohen, J. Solis-, 2113 Chestnut St.
Cohen, Leon Solis-, 1525 Walnut St.
Cohen, Myer Solis-, 4102 Girard Ave.
Cohen, Samuel, 1233 S. Fourth St.
Cohen, Solomon Solis-, 1525 Walnut St.
Cole, Charles J., Elkins Park (Montg. Co.).
Coles, Stricker, 2103 Walnut St.
Colgan, James F. E., 1022 N. Fifth St.
Colgan, John A., 1809 Chestnut St.
Collins, Edward W., 763 E. Allegheny Ave.
Conard, Thomas E., 1855 N. Seventeenth St.
Conlen, Alexander Joseph P., 1113 Divinity Place.
Cook, Alice H., 4401 Market St.
Cooke, Dudley T., 1536 S. Broad St.
Cooke, Edwin S., 1831 Chestnut St.
Cooperman, Morris B., 833 S. Third St.
Coplin, William M. L., 606 S. Forty-Eighth St.
Copp, Owen, 4401 Market St.
Cornell, Walter S., 1725 N. Sixteenth St.
Cortese, Ignazio, 1025 Christian St.
Cowan, Alfred, 2018 Chestnut St.
Cowie, Helen J., 42 S. Forty-Fourth St.
Craig, Alexander R., 535 N. Dearborn St., Chicago, Ill.
Craig, Clark R., 331 S. Twelfth St.
Craig, Frank A., 244 S. Twenty-First St.
Craig, Nellie Cameron, 5412 Chestnut St.
Cramp, Joseph A., 1902 Chestnut St.
Crampton, George S., 1700 Walnut St.
Crandall, Thomas V., 1801 Chestnut St.
Creighton, William J., 1905 Chestnut St.
Crosby, William S., 328 S. Seventeenth St.
Croskey, John Welsh, 1909 Chestnut St.
Crowe, F. Beresford, 728 S. Sixtieth St.
Crueger, Edward A., 1831 Chestnut St.
Cruice, John M., 1932 Spruce St.
Cryer, Matthew H., 140 S. Lansdowne Ave., Lansdowne (Del. Co.).
Culbertson, Walter L., 2502 N. Twenty-Ninth St.
Cunningham, James H., 1703 S. Twenty-Second St.
Cunningham, Joseph F., 4356 Penn St.
Currie, Charles A., 50 W. Walnut Lane, Gtn.
Currie, Thomas R., 512 W. Lehigh Ave.
Custer, Ella B., 137 Green Lane, Manayunk.
Custer, D. D., 137 Green Lane, Manayunk.
DaCosta, John C., Jr., 1529 Pine St.
DaCosta, J. Chalmers, 2045 Walnut St.
Daland, Judson, 317 S. Eighteenth St.
Daniels, Clarence D., Eighteenth and Dauphin Sts.
Dannenberg, Arthur Mansbach, 1747 N. Thirty-Third St.

d'Apery, Tello J., 767 N. Fortieth St.
Davidson, Arthur J., 200 S. Twelfth St.
Davies, John Rumsey, Jr., 302 S. Nineteenth St.
Davis, Alvah M., 25 High St., Gtn.
Davis. Edward P., 250 S. Twenty-First St.
Davis, J. Leslie, 135 S. Eighteenth St.
Davis, Richard Sharpless, 302 School Lane, Gtn.
Davis, T. Carroll, 2408 W. Allegheny Ave.
Davis, Warren B., 135 S. Eighteenth St.
Davisson, Alexander H., 4514 Springfield Ave.
Day, Elbert O., 27 Carpenter Lane, Mt. Airy.
Deardorff, William H., 5049 Hazel Ave.
Deaver, John B., 1634 Walnut St.
Deaver, Richard W., 6105 Main St., Gtn.
DeCarlo, John, 1124 Ellsworth St.
Deehan, Sylvester James, 2035 Chestnut St.
DeFord, Moses, 1524 Chestnut St.
Deichler, L. Waller, 2028 Chestnut St.
Deitz, George W., 1744 Orthodox St., Fkd.
Dempsey, William T., 2606 N. Fifth St.
Dengler, Robert H., 2324 N. Broad St.
Denney, George H., S. E. Cor. 35th and Spring Garden Sts.
Dercum, Francis X., 1719 Walnut St.
Despard, Duncan L., 1806 Pine St.
Dever, Francis J., 319 S. Eighteenth St.
Devereux, Robert T., 1856 Hunting Park Ave.
Devitt, Benjamin F., 1503 N. Fifteenth St.
Devitt, William, 130 Green Lane, Manayunk.
Devlin, Albert J., 1615 N. Tenth St.
Dewey, J. Hiland, 1436 Diamond St.
Diamond, Henry N., 2136 S. Fifth St.
Dick, John W., 1945 Christian St.
Dick, Walter, Ramsaytown (Jeff. Co.).
Dickinson, Harrington S., 5001 Walnut St.
Diez, M. Louise, 5733 Spruce St.
Dillard, Henry K., Jr., 234 S. Twentieth St.
Dintenfass, Henry, 415 Pine St.
Diseroad, Benjamin F., 901 W. Lehigh Ave.
Diven, John, 2038 Chestnut St.
Doane, Joseph C., Philadelphia General Hospital.
Doe, Charles Herbert, St. Mary's Hospital, Rochester, Minn.
Dolson, Frank E., 1524 Chestnut St.
Donahue, John Leo, 2237 W. Thompson St.
Donmoyer, Ida L., 2443 N. Seventeenth St.
Donnelly, Daniel J., 3727 N. Fifteenth St.
Donnelly, Dorothy, 213 Green Lane, Rxb.
Donnelly, Edward J., 3000 W. Lehigh Ave.
Donnelly, John Develin, 6914 Old York Road.
Dorland, W. A. N., 4527 N. Racine Ave., Chicago, Ill.
Dorr, Henry I., 158 Summer St., Somerville, Mass.
Dorrance, George M., 2025 Walnut St.
Dorset, Ernest M., 1531 N. Nineteenth St.
Dorsett, Rae S., 4027 Girard Ave.
Douglass, Malcolm, 1814 Tioga St.
Douredoure, Eveleen A., 4107 Baltimore Ave.
Downs, Robert N., Jr., 6008 Greene St., Gtn.
Downs, Thomas A., 409 N. Forty-First St.
Doyle, Alfred S., 5849 Chestnut St.
Drake, Elwood L., 2762 Pratt St.
Dray, Arthur R., care Dr. D. Stuart Dodge, Seventy-Third St. and Broadway, New York.
Drayton, William, Jr., 330 S. Seventeenth St.
Dripps, John H., 1812 N. Eleventh St.
Druce, Thomas W., 1316 S. Thirty-Fifth St.
Drumheller, Floyd D., 5128 Chester Ave.
Drummond, Winslow, 1824 N. Thirteenth St.
Dubbs, John H., 2722 N. Twelfth St.
Dubbs, Robert L., 1622 S. Eighteenth St.
Dukes, John L., 344 N. Fifty-Second St.
Duncan, Harry A., 2615 W. Somerset St.
Dundore, Claude A., N.-E. Cor. Center and Fifth Sts., Ashland (Schuylkill Co.).
Dyson, Frank Moir, 1408 Butler St.
Ealer, Percy H., 2027 Spring Garden St.
Eaton, Albert M., 2017 N. Thirteenth St.
Eckfeldt, John W., 6312 Vine St.
Edeiken, Louis, 2412 S. Fifth St.
Edwards, Thomson, 906 S. Forty-Seventh St.
Eft, Frederick, 1340 N. Thirteenth St.
Egan, John H., 1930 Race St.
Egbert, Seneca, 4814 Springfield Ave.
Eglick, Samuel, 525 N. Fourth St.
Egly, H. Conrad, Kirkwood (Lancaster Co.).
Eichman, Edward A., 440 Lyceum Ave., Rxb.
Elder, Frank H., 6038 Overbrook Ave.
Eldredge, Clarence S., 2330 N. Seventeenth St.
Eliason, Eldredge L., 320 S. Sixteenth St.
Ellinger, J. Edgar, N. E. Cor. Seventh and Clearfield Sts.
Ellis, Aller C., Royal Medical College, Bankok, Siam.
Ellis, William T., 1926 N. Nineteenth St.
Elmer, Macomb K., 3903 Chestnut St.
Elmer, Walter G., 1801 Pine St.
Ely, Thomas C., 2041 Green St.
Ely, William C., 2041 Green St.
Embery, Frank, 4660 Frankford Ave.
Emich, John P., 3245 N. Front St.
Endres, Joseph M., 1416 S. Fifteenth St.
Engle, Ralph Landis, 827 S. Sixtieth St.
Englerth, Louis D., 4918 Frankford Ave.
Erck, Theodore A., 251 S. Thirteenth St.
Erney, Erwin H., 5602 Lansdowne Ave.
Ersner, Matthew S., 1518 N. Sixth St.
Eshleman, Robert H., 4817 Baltimore Ave.
Eshner, Augustus A., 1019 Spruce St.
Evans, William, 4007 Chestnut St.
Everitt, Ella B., 1807 Spruce St.
Eves, Curtis Clyde, 247 S. Seventeenth St.
Ewing, Charles H., 1330 S. Seventeenth St.
Falls, Samuel C., 6139 Haverford Ave.
Faries, Randolph, 2007 Walnut St.
Faris, George T., 17 Roberts Ave., Glenside (Montg. Co.).
Farley, Joseph, 1919 S. Broad St.
Farr, Clifford B., 4420 Spruce St.
Farr, William W., 20 W. Ashmead Pl., Gtn.
Farrar, Joseph D., 1944 N. Broad St.
Faught, Francis Ashley, 5006 Spruce St.
Felderman, Leon, 1423 N. Twelfth St.
Feldstein, Sidney L., 2145 N. Fifteenth St.
Felt, Carle Lee, 2007 Chestnut St.
Fenerty, Vincent J., 2217 E. Cumberland St.
Fenton, Thomas H., 1319 Spruce St.
Ferguson, Albert D., 50 E. Johnson St., Gtn.
Ferguson, William N., 125 W. Susquehanna Ave.
Ferguson, William N., Jr., 2725 N. Fifth St.
Ferris, Francis S., 501 S. Forty-Fifth St.
Fetterman, Wilfred B., 7047 Germantown Ave.
Fetterolf, George, 2047 Chestnut St.
Fiet, Harvey J., 2152 N. Fourth St.
Fife, Charles A., 2038 Chestnut St.
Finck, Edward B., 1518 Pine St.
Fineman, Harry E., 1338 N. Franklin St.
Fingles, Albert A., 2229 Vine St.
Firth, George W., 1802 E. Schiller St., Fkd.
Fischelis, Philip, 828 N. Fifth St.
Fischer, Charles, 2082 E. Cumberland St.
Fish, Harry C., 236 N. Fiftieth St.
Fisher, Frank, 1911 Arch St.
Fisher, Henry, 2345 E. Dauphin St.
Fisher, Henry M., 1027 Pine St.
Fisher, Herbert P., 5532 Wayne Ave., Gtn.
Fisher, John M., 222 S. Fifteenth St.
Fisher, John V., 6027 Larchwood Ave.
Fisher, Lewis, N. W. Cor. Sixteenth and Walnut Sts.
Fisher, Mary, 1911 Arch St.
Fisher, Mulford K., 3128 Diamond St.
Fitzpatrick, Ignatius L. J., 1807 S. Eighteenth St.
Flannery, Leo G., S. W. Cor. Broad and York Sts.
Fleming, Thomas J., 2225 Green St.
Flick, John B. L., 736 Pine St.
Flynn, J. Cajetan, 1225 N. Sixth St.
Foehrenbach, Julius E., 3228 N. Fifteenth St.
Foltz, J. Clinton, Summit St., Chestnut Hill.
Ford, Walter A., N. E. Cor. Fifteenth and Locust Sts.
Formad, Marie K., 927 N. Broad St.
Forman, Horace J., Jr., 3350 N. Fifteenth St.

Forst, John R., 166 W. Coulter St., Gtn.
Foulkrod, Collin, 4005 Chestnut St.
Fox, Herbert, 3902 Locust St.
Fox, L. Webster, 303 S. Seventeenth St.
Fraley, Frederick, 314 S. Seventeenth St.
Fralinger, John J., 1827 S. Second St.
Francine, Albert P., 264 S. Twenty-First St.
Franklin, Clarence Payne, 1527 Spruce St.
Franklin, M. Burnett, 1512 Diamond St.
Franklin, Melvin M., 6124 Greene St., Gtn.
Frazier, Charles H., 1724 Spruce St.
Freas, Henry M., 1319 W. Allegheny Ave.
Freeman, Frank Ernest, 1231 N. Sixtieth St.
Freeman, Walter J., 1832 Spruce St.
Freeman, Walter S., 909 W. Susquehanna Ave.
Frescoln, Leonard D., 3944 Aspen St.
Fretz, Howard G., 1207 W. Erie Ave.
Freund, Henry H., 1443 S. Broad St.
Frick, J. Howard, 402 High St., Gtn.
Fricka, Katherine T., Friends Hospital, Fkd.
Fridy, Cyrus W., S. E. Cor. Fifty-Eighth St. and Thomas Ave.
Friedmann, Adolph H., 205 N. Sixtieth St.
Fries, Charles Joseph V., Jr., 2044 Chestnut St.
Fries, Irwin A., 1312 S. Broad St.
Fritch, J. Scott, 1318 Spruce St.
Fritts, William Henry, 535 N. Eleventh St.
Fritz, Clarence Henry, 1822 S. Broad St.
Fritz, W. Wallace, 1600 Summer St.
Frosch, Frank Joseph, 2736 N. Twelfth St.
Fuller, Daniel H., Penn Hospital for Insane, Market and Forty-Ninth Sts.
Fulton, T. Chalmers, Schuyler Bldg., Sixth and Diamond Sts.
Fulton, Z. M. Kempton, 1111 W. Lehigh Ave.
Funk, Elmer H., 1318 Spruce St.
Furbush, Charles Lincoln, 1501 Spruce St.
Fusco, Pasquale, 1230 Reed St.
Fussell, George D., 421 Lyceum St., Rxb.
Fussell, M. Howard, 2035 Walnut St.
Gadd, Samuel W., 2114 S. Sixteenth St.
Galbraith, James L., 2239 N. Nineteenth St.
Gallagher, James S., 207 E. Sixth St., Lansdale (Montg. Co.).
Gallagher, John P., 2154 N. Broad St.
Gans, Emanuel S., 711 N. Franklin St.
Gans, S. Leon, 1610 Arch St.
Gartman, Leon N., 523 Pine St.
Gaskill, Henry K., N. E. Cor. Sixteenth and Spruce Sts.
Gaston, Ida E., 2833 Diamond St.
Geisler, Howard D., 35 High St., Gtn.
Gerhard, Arthur H., 2110 Pine St.
Gerhard, Samuel P., 639 N. Sixteenth St.
Gerlach, Ella M., 3706 Brown St.
Gessler, Charles W., 1311 S. Broad St.
Getelman, Ralph E., 2011 Chestnut St.
Getson, Philip, 1301 E. Moyamensing Ave.
Getty, Mary, 1831 Chestnut St.
Gibbon, John H., 1608 Spruce St.
Gilbride, John J., 1934 Chestnut St.
Gildersleeve, George Henry, 525 N. Sixth St.
Gildersleeve, Nathaniel, Roselawn, Hilldale Rd., Lansdowne (Del. Co.).
Gilhool, Edward, 3812 N. Broad St.
Gill, A. Bruce, The Lenox, Thirteenth and Spruce Sts.
Gilliland, Samuel H., Ambler (Montg. Co.).
Gilpin, Sherman F., 432 N. Fifty-Second St.
Ginsburg, Morris, 1511 S. Ninth St.
Ginsburg, Samuel A., 1901 S. Broad St.
Girvin, John H., 2120 Walnut St.
Gittings, J. Claxton, 3903 Chestnut St.
Gleason, E. Baldwin, 2033 Chestnut St.
Goddard, Herbert M., 1531 Spruce St.
Godfrey, Henry G,. 2054 E. Cumberland St.
Goepp, R. Max, 124 S. Eighteenth St.
Goldberg, Harold G., 1925 Chestnut St.
Goldberg, Joseph M., 855 N. Seventh St.
Goldberg, Maurice, 1140 S. Sixth St.
Goldberg, Samuel, 4415 Germantown Ave.
Golden, Henry, 1722 S. Broad St.
Goldring, Emil J., 1722 N. Eighth St.
Goldsmith, S. Byron, 247 S. Thirteenth St.
Goldstein, A. Otto, 979 N. Fifth St.
Goldstein, Joseph, 2437 W. Lehigh Ave.
Good, William H., 5309 Rising Sun Ave.
Goodman, Edward H., 248 S. Twenty-First St.
Goodwin, Warren C., 3740 Powelton Ave.
Goos, Harry W., N. E. Cor. Amber and Dauphin Sts.
Gordon, Alfred, 1812 Spruce St.
Gordon, Chester A. A., 4062 Haverford Ave.
Goss, Charles, 1316 W. Allegheny Ave.
Gottshall, Florence M., 1613 S. Thirteenth St.
Gowens, Henry L., 37 S. Sixteenth St.
Grady, William P., 1214 N. Seventh St.
Graf, Edmund L., 927 S. Sixtieth St.
Graham, Edwin E., 1713 Spruce St.
Graham, John, 326 S. Fifteenth St.
Grahn, S. Norman, 1744 N. Tenth St.
Gray, Alfred P., 1818 Orthodox St.
Gray, George B., 6118 W. Oxford St.
Gray, Robert L., 3031 N. Broad St.
Grayson, Charles P., 262 S. Fifteenth St.
Green, Max, 2007 S. Fourth St.
Greenbaum, Sigmund S., 1103 S. Eighth St.
Greenewalt, Frank L., 1424 Master St.
Griffith, J. P. Crozer, 1810 Spruce St.
Grim, Ella Williams, 46 N. Fortieth St.
Grime, Robert T., 3830 Locust St.
Grimes, Charles Henry, 3417 Old York Rd.
Grimes, Robert Bruce, 630 S. Fifty-Second St.
Griscom, J. Milton, 1925 Chestnut St.
Groff, Charles A., 222 N. Thirteenth St.
Groff, John W., 3500 N. Broad St.
Gross, Samuel, 645 Ritner St.
Guthrie, D. Clinton, 722 N. Fortieth St.
Gwyn, Norman B., 20 S. Twenty-First St.
Haerer, Frederick J., 719 Drexel Bldg.
Haig, Charles R., Jr., 1818 Diamond St.
Haines, Wilbur H., 1701 Chestnut St.
Hale, George, Jr., 29 W. Main St., Haddonfield, N. J.
Hale, William H. L., 1713 Pine St.
Hall, William D. W., 801 S. Forty-Ninth St.
Halperen, Abraham D., 2335 S. Eighth St.
Hamill, Samuel McC., 1822 Spruce St.
Hamill, Stephen Aspinall, 2335 Oxford St.
Hamilton, William A., 602 E. Girard Ave.
Hamilton, William T., 932 W. Lehigh Ave.
Hammer, A. Wiese, 902 N. Forty-First St.
Hammond, Frank C., 3311 N. Broad St.
Hammond, Levi Jay, 1222 Spruce St.
Hancock, Frank Bacon, 2065 N. Sixty-Third St.
Hand, Alfred, 1724 Pine St.
Hanna, Hugh, 2843 Diamond St.
Hannum, William, 844 N. Twenty-Third St.
Hansell, Howard F., N. E. Cor. Seventeenth and Walnut Sts.
Harbaugh, Charles H., 1143 S. Broad St.
Harbridge, D. Forest, Goodrich Block, Phoenix, Ariz.
Hardin, Julia H., 6323 Lancaster Ave.
Hare, Hobart A., 1801 Spruce St.
Hargett, Walter S., 5617 Girard Ave.
Harris, Frank D., 2315 N. Seventeenth St.
Harris, Joseph G., 728 Fitzwater St.
Harris, Raymond J., 1843 S. Broad St.
Harrison, Francis G., 116 S. Nineteenth St.
Harrison, Rose, 1836 S. Broad St.
Harrison, William J., 3452 Kensington Ave.
Harte, Richard H., 1503 Spruce St.
Hartley, Harriet L., 1534 N. Fifteenth St.
Hartwell, John H., 3302 N. Broad St.
Hartz, Harry J., 2144 S. Broad St.
Hartz, William, 2510 W. Lehigh Ave.
Hartzell, Milton B., 3644 Chestnut St.
Harvey, E. Marshall, Media (Del. Co.).
Hatfield, Charles J., 2008 Walnut St.
Hawke, Wilfred W., 510 Flanders Bldg.
Hawkins, Charles L., Medical Arts Bldg.

Hayes, John Agnew, 1903 Arch St.
Hazzard, Henry Draper, 1243 S. Broad St.
Head, Joseph, 1500 Locust St.
Hearn, Marion, 4227 Chestnut St.
Hearn, William P., 2119 Spruce St.
Hearst, John A., 6043 Germantown Ave.
Heath, Francis J., Union Medical College for Women, Peking, China.
Heck, John A., 958 N. Fifth St.
Heed, Charles R., 1205 Spruce St.
Heimer, Louis B., 2404 N. Thirty-Second St.
Heineberg, Alfred, 1642 Pine St.
Heisler, Frank Joseph, 3136 Diamond St.
Heisler, John C., 3829 Walnut St.
Heist, George D., 5219 Greene St., Gtn.
Heller, Edwin A., 1911 N. Broad St.
Henry, J. Norman, 1906 Spruce St.
Henry, Melvin K., 5011 Tacony St.
Henry, Robert W., 768 S. Fifteenth St.
Herbert, J. Frederick, 811 Flanders Bldg.
Herbert, J. Frederick, Jr., 2132 N. Twelfth St.
Herchelroth, J. Grant, 4837 Baltimore Ave.
Herman, J. Leon, 1701 Chestnut St.
Hermance, William Oakley, 2040 Pine St.
Herrman, Max F., 3703 Old York Rd.
Hewish, Edgar M., 2131 Columbia Ave.
Hewson, Addinell, 2120 Spruce St.
Hewson, William, 6300 Overbrook Ave.
Hibshman, Henry Z., 4006 N. Fifth St.
Higbee, William S., 1703 S. Broad St.
Higgate, Wilfred O., 822 N. Forty-First St.
Higgins, Frank J., 2229 N. Broad St.
Higgins, James C., 141 N. Nineteenth St.
Hilferty, Edward F., 2225 N. Twenty-First St
Hill, Anthony J., 630 N. Eleventh St.
Hill, G. Alvin, 1524 Chestnut St.,
Hill, Howard Kennedy, 314 S. Seventeenth St.
Hilly, Joseph F., 724 N. Fortieth St.
Hinkel, William M., 1323 N. Thirteenth St.
Hinman, Alma Mae, 208 Rochelle Ave.
Hirsch, Charles S., S. W. Cor. Ninth and Pine Sts.
Hirsch, Otto C., 905 W. Lehigh Ave.
Hirschler, Rose, 126 S. Seventeenth St.
Hirst, Barton C., 1821 Spruce St.
Hirst, John Cooke, 1823 Pine St.
Hitschler, William A., Medical Arts Bldg.
Hoban, Charles J., 1609 S. Broad St.
Hobensack, J. Rex, 1706 Columbia Ave.
Hockaday, Agnes, 20 E. Baltimore Ave., Lansdowne (Del. Co.).
Hodge, Edward B., Jr., 346 S. Sixteenth St.
Hollingshead, Irving W., 123 S. Eighteenth St.
Hollopeter, William C., 1411 Spruce St.
Holloway, Thomas B., 1819 Chestnut St.
Holmes, E. Burvill, 714 Montgomery Ave., Narberth (Montg. Co.).
Holmes, John W., 6201 Lansdowne Ave.
Holtzhausser, George J., 160 W. Girard Ave.
Hooker, Richard S., 110 S. Nineteenth St.
Hopkins, Arthur H., 1726 Pine St.
Hopkinson, Oliver, 1424 Spruce St.
Hopkinson, Richard Dale, 217 Summit Ave., Jenkintown (Montg. Co.).
Horgan, Edward, 1833 Chestnut St.
Horne, Joseph A., Oak Lane.
Horne, S. Hamill, 1610 Spruce St.
Hornstine, Harry H., 615 N. Seventh St.
Hornstine, Nathan H., 530 Spruce St.
Houser, Lewis J., 804 Race St.
How, Harold W., P. O. Box 172, Bryn Mawr (Montg. Co.).
Hoyt, Daniel, M., 3604 Chestnut St.
Hughes, Elizabeth M., 1924 N. Sixty-Third St.
Hughes, William E., 3945 Chestnut St.
Hume, John E., 900 S. Forty-Ninth St.
Hungerbuehler, John C., 1530 N. Franklin St.
Hunsicker, Hannah M., Front St. and Duncannon Ave.
Hunt, Charles J., 4906 Blackstone Ave., Chicago, Ill.
Hunt, Laura Emma, 213 S. Seventeenth St.
Hunter, Robert J., 926 N. Sixty-Third St.
Hurlock, Frank I., 2831 Diamond St.
Husik, David N., 1303 Locust St.
Hustead, Frank H., 5115 Old York Rd.
Huston, David T., 1809 Chestnut St.
Hutchinson, James P., 133 S. Twenty-Second St.
Huttenlock, Robert E., 1122 E. Columbia Ave.
Hutton, Frederick C., 1438 N. Fifteenth St.
Immerman, Samuel L., 1812 E. Passyunk Ave.
Ingham, Samuel D., 1831 Chestnut St.
Ingraham, S. Cooke, 125 Sumac St., Mynk.
Ingram, Earle H., Cramp's Shipyard, Richmond and Norris Sts.
Irwin, James A., 2019 S. Broad St.
Irwin, William, 634 Snyder Ave.
Jackson, Chavalier, 1830 Rittenhouse Sq.
Jackson, J. Allen, Phila. Hosp. for Insane, 34th and Pine Sts.
Jacob, Louis H., 141 W. Susquehanna Ave.
Jacob, Moses, 1316 S. Fifth St.
Jacobs, Leopold M., 1327 N. Fifteenth St.
Jaffe, Jacob K., 526 N. Fourth St.
Jameson, Howard Leon, 2133 S. Sixteenth St.
Janvier, Florizel, 4751 Penn St., Fkd.
John, Rutherford Lewis, 248 S. Twenty-First St.
Johnson, Elmer E., 2455 N. Thirty-Third St.
Johnson, George Ernest, 5441 Chester Ave.
Johnson, Lucius W., Bureau of Medicine and Surgery, Navy Dept., Washington, D. C.
Johnson, Russell H., East Bell's Mill Rd., Chestnut Hill.
Johnson, William N., 6460 Germantown Ave.
Johnson, William T., 4729 Baltimore Ave.
Jonas, Leon, 2253 N. Seventeenth St.
Jones, A. Arthur, 1812 Jefferson St.
Jones, Charles J., 1507 Locust St.
Jones, Clifford B., 5035 Wayne Ave., Gtn.
Jones, Eleanor C., 1531 N. Fifteenth St.
Jones, John Bayley, 3863 N. Eighth St.
Jones, John F. X., 1815 Spruce St.
Jones, Thomas E., 145 W. Susquehanna Ave.
Jopson, John H., 1824 Pine St.
Jordan, Thomas B. L., 1124 Lehigh Ave.
Judd, Clarence Wrigley, 4413 Richmond St.
Judson, Charles F., 1005 Spruce St.
Jump, Henry D., 2019 Walnut St.
Jurist, Louis, 1308 N. Broad St.
Kahn, Bernard L., 2125 S. Fourth St.
Kalteyer, Frederick J., 1533 Pine St.
Kamerly, E. Forrest, Jr., 1130 Spruce St.
Kane, Clinton A., 1600 Mt. Vernon St.
Kane, Leo A., 2658 E. Thompson St.
Kapp, David, 1322 N. Thirteenth St.
Karpeles, Maurice J., 146 W. Chelton Ave., Gtn.
Katar, Felix M., 127 S. Thirty-Sixth St.
Katzenstein, George P., 1915 N. Broad St.
Kauders, H. Randle, 704 E. Chelton Ave.
Kaufman, A. Spencer, 254 S. Sixteenth St.
Kaufman, Isadore, 312 Otis Bldg., N. W. Cor. Sixteenth and Sansom Sts.
Kay, James, 600 W. Olney Ave.
Keeler, J. Clarence, Medical Arts Bldg.
Keely, Henry Edgar, 1640 Green St.
Keely, Robert N., Browns-Mills-in-the-Pines, N. J.
Keen, William W., 1729 Chestnut St.
Keenan, Andrew Joseph, c/o Dr. Thomas J. Byrne, 1517 S. Broad St.
Keene, Floyd E., 116 S. Nineteenth St.
Kehler, B. Frank, 318 S. Sixteenth St.
Keller, Albert P., 136 Race St.
Kellner, Henry C. F., 1337 E. Montgomery Ave.
Kelly, Francis J., 407 S. Forty-Second St.
Kelly, James A., 1510 N. Seventeenth St.
Kelly, Thomas C., 105 Schoolhouse Lane, Gtn.
Kelsey, Ernest W., 1217 Spruce St.
Kempton, Augustus F., 2118 Pine St.
Kennedy, James W., 241 N. Eighteenth St.
Kercher, Delno E., 1534 Pine St.
Kerns, Samuel P., 1432 Diamond St.
Killian, Frederick W., 3725 Spring Garden St.

Kimmelman, Louis, 2401 N. Fifth St.
Kimmelman, Simon, S. W. Cor. Eighth St. and Snyder Ave.
Kindbom, Hanna, 1507 Poplar St.
Kinne, Howard S., 826 E. Sixteenth St., Chester (Del. Co.).
Kinney, Willard H., 124 S. Eighteenth St.
Kirby, Ellwood R., 1202 Spruce St.
Kirk, George W., 1427 Girard Ave.
Kirkbride, M. Frank, 2212 Green St.
Kirkpatrick, Andrew B., 1742 N. Fifteenth St.
Kirshbaum, Helen, 1303 Locust St.
Kitchen, Joseph S., 3846 N. Eighteenth St.
Kitchen, Philip Gordon, 8021 West Chester Pike, Llanerich P. O. (Del. Co.).
Klapp, Wilbur P., 1716 Spruce St.
Klauder, Joseph V., 1305 Wyoming Ave.
Klein, Alexander, 321 S. Eleventh St.
Klein, Thomas, 248 S. Seventeenth St.
Klemm, Adam, 1204 W. Lehigh Ave.
Klimas, Enoch G., 2700 E. Ann St.
Kline, Harvey W., 3636 N. Seventeenth St.
Klopp, Edward Jonathan, 1223 Spruce St.
Klopp, Peter P., 618 W. Lehigh Ave.
Knipe, Norman L., 2007 Chestnut St.
Knorr, John K, Jr., 2235 N. Sixteenth St.
Knowles, Frank C., 2022 Spruce St.
Knowles, George A., 4812 Baltimore Ave.
Knowles, Mary Gilbert, Med. Arts Bldg.
Knox, Andrew, 501 E. Allegheny Ave.
Knox, Henry, 5000 Spruce St.
Kobler, Henry B., Sixty-Third and Media Sts.
Koenig, Carl F., 1734 Harrison St.
Kohlman, Samuel H., 1615 Butler St.
Kohn, Bernard, 1516 N. Fifteenth St.
Kolmer, John A., 927 S. St. Bernard St.
Kraker, Florence E., 1225 Spruce St.
Krall, John T., 1421 Chestnut St.
Kramer, David Warren, 1819 Chestnut St.
Kraus, Gabriel J., 3153 Richmond St.
Krauss, Frederick, 1701 Chestnut St.
Kremens, Maxwell B., 2525 S. Fifteenth St.
Krumbhaar, Edward B., Chestnut Hill.
Krusen, Wilmer, 127 N. Twentieth St.
Kuehner, Howard M., 2174 E. York St.
Kurtz, Arthur D., 2520 N. Twenty-Second St.
Kyle, E. Bryan, Monta Vista Apts., Sixty-Third and Oxford Sts.
Lacy, Henry A., 743 N. Seventeenth St.
Laessle, Henry A., 5900 Market St.
Laferty, John M., 548 E. Allegheny Ave.
Laird, J. Packard, Devon (Chester Co.).
Lammer, Francis J., 2266 N. Nineteenth St.
Lamparter, Eugene, Green Lane (Montg. Co.).
Landis, Henry R. M., 11 S. Twenty-First St.
Lane, Dudley W., 2237 N. Twenty-Ninth St.
Lane, Peter Henry, 186 Bethlehem Pike, Chestnut Hill.
Langdon, H. Maxwell, 2018 Chestnut St.
Laplace, Ernest, 1828 S. Rittenhouse Sq.
Larer, Richard W., 1407 E. Columbia Ave.
Large, Octavius P., Twenty-Ninth St. and Susquehanna Ave.
Latchford, O. Luther, 1607 N. Fifteenth St.
Latta, Samuel W., Seventeenth and Filbert Sts.
Lau, Scott W., N. E. Cor. Fifteenth and Ritner Sts.
Lautenbach, Louis J., 33 S. Sixteenth St.
Lawrance, J. Stuart, 1332 Spruce St.
Lawrence, Granville A., 1418 W. Erie Ave.
Laws, George M., 2033 Locust St.
Leach, Wilmon W., 2118 Spruce St.
Leaman, Enos H., 3440 N. Second St.
Leaman, Henry, 832 N. Broad St.
Leaman, William G., 3700 Baring St.
Leavitt, Frederick H., 1519 Pine St.
Lebo, D. Austin, 2317 W. Somerset St.
LeBoutillier, Theodore, 9 S. Twenty-First St.
LeCates, Charles A., Mt. Pocono (Monroe Co.).
LeConte, Robert G., 1530 Locust St.
Lee, W. Estell, 905 Pine St.
Leebron, Jacob D., 5814 Chestnut St.
Leedom, John, 725 W. Allegheny Ave.
LeFever, Charles W., 1708 Pine St.
Leffmann, Henry, 1839 N. Seventeenth St.
Legg, Albert N., 1639 W. Dauphin St.
Lehman, Frederick C., 2501 Columbia Ave.
Lehman, Joseph D., 4257 Main St., Manayunk.
Lehrfeld, Louis, 702 S. Sixtieth St.
Leidy, C. Fontaine Maury, 404 S. Sixteenth St.
Leidy, Joseph, 1319 Locust St.
Lenahan, Joseph P., 3306 N. Fifth St.
Lennon, James Summer, 1608 Christian St.
Leof, Morris V., 1700 N. Franklin St.
Leonard, Charles F., 2025 S. Tenth St.
Leopold, Samuel, 1632 N. Franklin St.
Leopold, Simon S., 1428 N. Broad St.
Levan, George F., 733 N. Forty-First St.
Levering, J. Walter, 1309 Oak Lane.
Levi, I. Valentine, 1736 N. Sixteenth St.
Levin, Samuel Fillmore, 619 S. Tenth St.
Levis, George E., 4523 Frankford Ave.
Levy, David W., 1122 E. Palmer St.
Levy, Jacob, 1920 S. Fifth St.
Lewis, Clarence J., 7004 Torresdale Ave.
Lewis, Daniel W., 3144 N. Twenty-Second St.
Lewis, Fielding O., 261 S. Seventeenth St.
Lewis, Mary R. Hadley, 46 N. Fortieth St.
Lewis, Morris J., 1316 Locust St.
Liggett, Samuel J., 936 W. Lehigh Ave.
Lilly, John H., 1553 E. Berks St.
Lincoln, Clarence W., Wayne (Del. Co.).
Lippert, Frieda E., 1716 N. Eighteenth St.
Lippincott, Edmund N., Oak Lane and E. Eleventh St.
Llewellyn, Thomas H., 715 N. Fortieth St.
Lloyd, James Hendrie, 4057 Spruce St.
Lockrey, Sarah H., 1701 Chestnut St.
Lodholz, Edward, 1106 S. Fifty-Second St.
Loeb, Ludwig, 1421 N. Fifteenth St.
Loeb, Victor A., 1622 N. Fifteenth St.
Loewenberg, Samuel A., 1626 Spruce St.
Long, Samuel C., 1716 N. Sixteenth St.
Long, William H., 4657 Lancaster Ave.
Longaker, Daniel, 1402 N. Sixteenth St.
Longaker, Edwin P., 1402 N. Sixteenth St.
Longaker, Horace G., 5215 Ridge Ave.
Longenecker, Christian B., 3416 Baring St.
Longshore, Howard K., 1503 Locust St.
Longshore, J. Bartley, 3150 N. Broad St.
Losada, Camelia A., 30 Vesey St., New York, N. Y.
Loughery, Thomas P., 5545 Morton St., Gtn.
Loughridge, Jonathan E., 5919 Greene St., Gtn.
Loux, Hiram R., 1819 Walnut St.
Love, Julius D., 315 Pine St.
Love, Louis F., 1305 Locust St.
Lowa, Walter, 653 N. Broad St.
Lowenburg, Harry, 2011 Chestnut St.
Luburg, Leon F., 1822 Girard Ave.
Ludlum, Seymore D., 216 S. Fifteenth St.
Ludy, John B., M. C., U. S. Army, Hawaii Dept.
Lukens, Robert M., 1308 Hunting Park Ave.
Lupin, Emanuel J., 2221 N. Thirty-Third St.
Lynch, Frank Bruce, Jr., 5413 Samson St.
Lynch, John J., 4280 Paul St.
Lyon, B. B. Vincent, 1828 Pine St.
Lytle, I. Walter, 1434 N. Fifteenth St.
McAllister, Anna M., 3503 Baring St.
McAniff, Hugh P., 2413 N. Seventh St.
McCalmont, 746 N. Sixty-Third St.
McCarthy, Cornelius T., 6 S. Thirty-Eighth St.
McCarthy, Daniel J., 2025 Walnut St.
McCarthy, Patrick A., 136 E. Price St., Gtn.
McClary, Samuel, III, 4610 Spruce St.
McCombs, Robert S., 262 S. Seventeenth St.
McCombs, William, 1527 N. Thirteenth St.
McConihay, Clarence W., 227 S. Ninth St.
McConnell, J. W., 1909 Chestnut St.
McCormick, John A., 1311 N. Nineteenth St.
McCrae, Thomas, 1627 Spruce St.
McCullough, Francis J., 1009 S. Forty-Seventh St.

McDaniel, Earl L., 1325 Erie Ave.
McDevitt, Charles H., 4600 Wayne Ave., Gtn.
McDougald, John Q., 1336 Lombard St.
McDowell, James E., 5006 Walnut St.
McDowell, Norris S., 1529 W. Columbia Ave.
McDowell, Samuel B., 925 N. Broad St.
McFarland, Joseph, 442 W. Stafford St., Gtn.
McGinnis, Arthur, N. E. Cor. Logan and Greene Sts., Gtn.
McGlinn, John A., 113 S. Twentieth St.
McGuigan, John I., 6018 Drexel Rd.
McIntire, Benjamin Meredith, 4833 Baltimore Ave.
McKee, Jennie M., Philadelphia General Hospital.
McKeldin, Robert A. W., 5342 Catherine St.
McKellar, Ruth Alexander-, 483 Beretania Ave., Honolulu, Hawaii.
McKenzie, R. Tait, 2014 Pine St.
McKinley, Archibald L., 3702 N. Broad St.
McLaughlin, John J., 1606 S. Broad St.
McLean, John D., Touraine Apts., 1520 Spruce St.
McLernon, John, 2636 Federal St.
McMonagle, James W., 1147 Snyder Ave.
McNerney, Aloysius F., 1806 N. Twenty-Third St.
McQuaide, Florence Quindaro, 1336 Pine St.
MacCarroll, D. Randall, 1906 Chestnut St.
MacCoy, Alexander W., 1503 Locust St.
MacCracken, George Y., 612 N. Thirteenth St.
Macfarlane, Catharine, 5808 Greene St., Gtn.
MacIntosh, William, 511 Green St.
MacKay, William H. G., 1416 N. Sixteenth St.
Mackenzie, Alice V., 1831 Chestnut St.
Mackenzie, George W., 1831 Chestnut St.
MacKinney, Wm. Humphrey, 1701 Chestnut St.
MacSorley, Harriet E., 5634 Thomas Ave.
Maier, F. Hurst, 2035 Chestnut St.
Major, C. Percy, Tenth St. and Oak Lane.
Mallon, Edward A., 1606 N. Seventeenth St.
Manasses, Jacob L., 3110 Diamond St.
Manges, Willis F., S. E. Cor. Fifteenth and Locust Sts.
Mann, Benjamin H., 1603 S. Fifth St.
Mann, Bernard, 6033 Chestnut St.
Mann, James Packard, 1234 Spring Garden St.
Mann, Victor L., Davison, Mich.
Manning, Charles L., 1818 Tioga St.
Mansfield, Job Robert, 5620 Germantown Ave.
Manship, Frances Petty, 335 Washington Ave.
Mantz, Francis A., 227 N. Eighteenth St.
Margolin, Fannie B., 1727 N. Fifty-Second St.
Markowitz, Morris, 1001 N. Sixth St.
Marks, Morris, 607 N. Sixth St.
Marks, Saul, 4140 Girard Ave.
Marshall, Clara, 258 S. Sixteenth St.
Marshall, George M., 1819 Spruce St.
Marter, Linnaeus E., 1631 Race St.
Martin, Collier Ford, 1831 Chestnut St.
Martin, Edward, 1506 Locust St.
Martin, Joseph, 2009 Columbia Ave.
Martin, Niles, 246 S. Forty-Fifth St.
Martin, William Orlando, 4268 Paul St.
Marvel, Henry V., 4839 Baltimore Ave.
Masland, Harvey C., 2130 N. Nineteenth St.
Massey, G. Betton, 1823 Wallace St.
Mather, Homer R., c/o Penna. Ry., Derry (Westm. Co.).
Mathews, Abel J., Spencer St., West of Old York Rd.
Mathews, Franklin, 1010 Rockland St.
Mathews, William, 728 W. Lehigh Ave.
Matlack, Frank S., 4601 Old York Rd.
Mayor, Charles A., 1006 Ritner St.
Mazer, Charles, 1603 S. Sixth St.
Mazor, Samuel, 445 Ritner St.
Mecluskey, John Franklin, 2622 N. Seventeenth St.
Megargee, George L., 1 Madison Ave., New York.
Meisle, F. Aaron, 150 Richmond St.
Mellor, John, 2045 Margaret St.
Melman, Ralph J., 933 N. Sixth St.
Menah, William M., 1831 Chestnut St.
Mencke, J. Bernard, 908 N. Sixteenth St.
Merrill, William Jackson, Medical Arts Bldg.
Merscher, Harry L., 2217 N. Broad St.
Merscher, Washington, 554 E. Washington Lane, Gtn.
Mershon, Oliver F., 2305 Christian St.
Messing, Max, 1736 S. Fifth St.
Metheny, S. A. Sterrett, 617 N. Forty-Third St.
Meyerhoff, Irwin S., 1727 N. Sixteenth St.
Meyers, Milton K., 1529 S. Broad St.
Michener, Evan W., 3708 N. Broad St.
Miller, Albert G., 2150 N. Twenty-First St.
Miller, Charles Scott, 1218 Wyoming Ave.
Miller, Edwin B., 2351 E. Cumberland St.
Miller, George B., 1942 N. Broad St.
Miller, Henry J., 536 S. Fifty-Second St.
Miller, Mary T., 313 N. Thirty-Third St.
Miller, Morris Booth, 2117 Pine St.
Miller, T. Grier, 1805 Pine St.
Miller, W. Edward, 122 Main St., Darby (Del. Co.).
Milligan, Alice H. B., 4620 Kingsessing Ave.
Milliken, Fred H., 3716 Walnut St.
Mills, Charles K., 1909 Chestnut St.
Mills, H. Brooker, 1411 Spruce St.
Minehart, John R., 4821 Germantown Ave.
Mintzer, George S., 2416 S. Broad St.
Missett, Joseph V., S. W. Cor. 63d and Race Sts.
Mitchell, A. Graeme, 1717 Pine St.
Mitchell, Charles F., 264 S. Sixteenth St.
Mitchell, Edward K., 710 W. Lehigh Ave.
Mitchell, William C., 1700 Diamond St.
Mitterling, Stephen, 5731 Baltimore Ave.
Modell, Daniel A., 1217 Fisher's Lane, Logan.
Monaghan, William Francis, 901 N. Forty-Fourth St.
Montealegre, Edgar, Abangarez Gold Fields, Puntarenus, Costa Rica, C. A.
Mongel, Ernest B., 1429 Tioga St.
Montgomery, Charles M., 2210 Locust St.
Montgomery, Edward E., 1426 Spruce St.
Mooney, Thomas H., 2808 Wharton St.
Moore, Cyrus C., 2118 N. Hancock St.
Moore, C. Howard, 2717 W. Lehigh Ave.
Moore, Edward J., 1619 Arch St.
Moore, Eugene A., 103 N. Fifty-Fourth St.
Moore, John D., 1940 N. Broad St.
Moore, Joseph A., 1216 N. Sixth St.
Moore, Philip H., 1225 Spruce St.
Moore, William Frederick, Llanerch (Del. Co.).
Moorhead, Stirling W., 1523 Pine St.
Moorhead, William W., 1523 Pine St.
Morell, Charles J., 5253 Spruce St.
Morgan, Arthur C., 3118 Diamond St.
Morris, Elliston J., 128 S. Eighteenth St.
Morrison, William F., 1438 Snyder Ave.
Morrison, William H., 8021 Frankford Ave., Holmesburg.
Morrow, James A., 2038 S. Fifth St.
Morton, Dudley Joy, 2141 Locust St.
Morton, George D., Honeybrook (Chester Co.).
Morton, Samuel W., 1926 Chestnut St.
Moss, Morris I., 869 N. Seventh St.
Moss, Samuel, 321 Pine St.
Moulton, Percy Daniel, 900 E. Chelten Ave., Gtn.
Moxey, Albert F., 36 E. Mt. Airy Ave., Mt. Airy.
Moylan, John J., 228 E. Price St., Gtn.
Moylan, Peter F., 1005 N. Sixth St.
Mudgett, John H., 2030 N. Thirteenth St.
Muellerschoen, George J., 1727 N. Fifteenth St.
Mulford, Leslie Frank, 2071 N. Sixty-Third St.
Mullen, Thomas F., Pennsylvania Hospital, Ninth and Spruce Sts.
Müller, Andrew J., 1136 N. Third St.
Müller, George P., 1729 Pine St.
Müller, Rudolph E., 2031 S. Broad St.
Müller, William K., 6004 Greene St., Gtn.
Mullowney, John J., 5506 Greene St., Gtn.
Mulrenan, John P., 1228 S. Broad St.
Munson, Henry G., 1825 Chestnut St.
Murphy, Eugene C., 2201 Spring Garden St.
Murphy, Frank A., 3019 Richmond St.
Murphy, John A., 326 W. Chelten Ave., Gtn.

Musser, John H., Jr., 121 S. Twentieth St.
Mutschler, Louis H., 1625 Spruce St.
Myers, Israel, 1525 N. Eighth St.
Myers, Talleyrand D., P. O. Box 314, Pasadena, Calif.
Nassau, Charles F., 1710 Locust St.
Neel, Henry A. P., 3602 Disston St.
Neff, Joseph S., Narberth (Montg. Co.).
Neilson, Thomas R., 1937 Chestnut St.
Nelson, Wilhelmina T. M., Phila. Co. Prison, Tenth and Reed Sts.
Newcomet, William S., 3501 Baring St.
Newlin, Arthur, 1804 Pine St.
Newmayer, Solomon W., 1507 N. Seventeenth St.
Newton, Robley D., 6137 Vine St.
Nichols, William, 2022 Bainbridge St.
Nicholson, William R., 1731 Pine St.
Nock, Thomas O., 821 N. Twenty-Fourth St.
Nofer, George H., 1759 Frankford Ave.
Norris, Charles C., The Coronado, Chestnut and Twenty-Second Sts.
Norris, George W., 1530 Locust St.
Norris, Richard C., 500 N. Twentieth St.
O'Boyle, Cyril Patrick, 211 N. Fifty-Fourth St.
O'Brien, Matthew C., 2017 Green St.
O'Brien, Theo. Wallace, Base Hosp., Lakewood, N. J.
O'Connell, John A., 2130 Pine St.
O'Drain, Thomas I., 2546 E. Allegheny Ave.
Off, Henry J., 115 S. Twentieth St.
Old, Herbert, Provident Life and Trust Co., Fourth and Chestnut Sts.
Oliensis, Abraham E., 707 Spruce St.
Olsho, Sidney L., Fifteenth and Locust Sts.
O'Malley, Austin, 2228 S. Broad St.
O'Neill, Francis C., 1725 Ritner St.
O'Neill, Joseph F., 1809 Vine St.
O'Reilly, Charles A., 1829 Chestnut St.
O'Rourke, Timothy M., 1921 Spring Garden St.
Osmond, Anna R., Phila. Co. Prison, Tenth and Reed Sts.
Osmond, Martha E., 6952 Torresdale Ave., Tacony.
Ostheimer, Alfred J., 2025 Walnut St.
Ostheimer, Maurice, 2202 Delancey St.
Ott, Lambert, 1905 N. Broad St.
Ottinger, Samuel J., S. E. Cor. Master and 12th Sts.
Outerbridge, George W., 2039 Chestnut St.
Owen, Hubley R., 319 S. Sixteenth St.
Owen, John J., 411 Pine St.
Packard, Francis R., 302 S. Nineteenth St.
Page, Henry F., 315 S. Sixteenth St.
Paist, Henry C., 1226 N. Franklin St.
Pancoast, Charles S., 205 Cooper St., Camden, N. J.
Pancoast, Henry K., Wynnewood (Montg. Co.).
Pancoast, J. William, 1611 N. Thirteenth St.
Parish, Benjamin D., 7318 Bryan St., Mt. Airy.
Park, Frederick S., 4106 Girard Ave.
Parke, Joseph Richardson, 902 Spruce St.
Parke, William E., 1739 N. Seventeenth St.
Parker, Edward A., 1307 Wingohocking St.
Parker, J. Sparks, 6805 Woodland Ave.
Parkinson, William N., 209 N. Sixtieth St.
Parrish, Robert C., 5301 Chester Ave.
Patterson, Francis D., 2103 Locust St.
Patterson, Ross Vernet, 340 S. Sixteenth St.
Patton, Gideon Harmer, 61 E. Penn St., Gtn.
Pearce, Richard M., 2114 DeLancey St.
Pease, Theodore N., 5800 Spruce St.
Peck, Elizabeth L., 4113 Walnut St.
Pelouze, Percy Starr, 1831 Chestnut St.
Pemberton, Ralph, 2212 Locust St.
Penrose, Charles Binham, 1720 Spruce St.
Peoples, John, Mesina. Turkey, Asia Minor.
Pepper, O. H. Perry, 1811 Spruce St.
Pepper, William, 1811 Spruce St.
Percival, M. Fraser, 2332 S. Broad St.
Perlman, Horace D., 1932 N. Seventh St.
Pessolano, Joseph Anthony, 610 Fitzwater St.
Peter, Luther C., 1527 Spruce St.
Petty, Orlando H., 6215 Ridge Ave.
Pfahler, George E., 1321 Spruce St.
Pfeiffer, Damon B., 2028 Pine St.
Pfleuger, Henry F., 1511 N. Seventh St.
Pfromm, George W., 1431 N. Fifteenth St.
Phelps, George F., 6019 Lansdowne Ave.
Phillips, Horace, 905 Land Title Bldg.
Phillips, Richard J., 123 S. Thirty-Ninth St.
Picard, Henry L., 1922 Race St.
Pickett, Elizabeth L., Aldan (Del. Co.).
Piersol, George A., 4724 Chester Ave.
Piersol, George Morris, 1913 Spruce St.
Pike, Charles P., 7282 Woodland Ave.
Pilkington, Albert, 876 S. Sixtieth St.
Pilkington, Horatio, 4238 Paul St., Fkd.
Pilling, George P., Jr., 4044 Chestnut St.
Piper, Edmund B., 1805 Pine St.
Plass, Charles F. W., Chew St. and Chelten Ave., Gtn.
Platt, Charles, Med. Arts Bldg., Walnut and 16th Sts.
Pleibel, Eugene Theodore, 3733 N. Marshall St.
Podolski, Louis A., 1117 W. Lehigh Ave.
Pontius, Paul J., 1831 Chestnut St.
Posey, William Campbell, 2049 Chestnut St.
Potsdamer, Joseph B., 1818 N. Broad St.
Pottberg, Charles, 2338 N. Broad St.
Potter, Ellen C., 5138 Wayne Ave.
Potts, Charles S., 2018 Chestnut St.
Powell, William E., 2357 E. Dauphin St.
Price, Charles E., 316 N. Fifty-Second St.
Price, George E., 1830 S. Rittenhouse Sq.
Pritchard, William C., 5616 Spruce St.
Propper, Julius, 4502 Baker St., Manayunk.
Purnell, Caroline M., 132 S. Eighteenth St.
Pyle, Walter L., 1931 Chestnut St.
Quicksall, William E., 1819 Spruce St.
Raby, Mahlon R., 5430 Wayne Ave., Gtn.
Radcliffe, McCluney, 1906 Chestnut St.
Rainear, A. Rusling, 2024 Diamond St.
Rainville, Joseph A., 1312 Porter St.
Ramsey, William G., 1430 S. Broad St.
Ramspacker, Theodore F., 1411 E. Moyamensing Ave.
Randall, Alexander, 1831 Chestnut St.
Ransley, Alexander W., 309 S. Sixteenth St.
Raudenbush, James S., 3633 N. Fifteenth St.
Rea, Marion Hague, 2121 N. College Ave.
Reckefus, Charles H., Jr., 506 N. Sixth St.
Reddie, Jacobina S., 626 Marlyn Rd.
Rees, William Thomas, 3763 N. Eighteenth St.
Reeves, Joseph M., 1916 Spruce St.
Reeves, Rufus Sargent, 1916 Spruce St.
Rehfuss, Martin E., Sixteenth and Spruce Sts.
Reichman, Adolph, 2237 S. Fifth St.
Reiff, E. Paul, 5051 Chestnut St.
Reilly, John J., 2406 S. Twenty-First St.
Reimann, Stanley P., 516 Arbutus St.
Reisert, William, 1429 Morris St.
Reis, Rose Selecter, 3136 Diamond St.
Reiss, Abe, 910 N. Franklin St.
Remig, John H., 805 S. Twelfth St.
Renninger, Abner Rutherford, The Lenox, Thirteenth and Spruce Sts.
Repp, John J., 926 S. Sixtieth St.
Repplier, Sidney J., 102 E. Mermaid Lane, C. H.
Reynolds, Charles B., 2003 Diamond St.
Rhein, John H. W., 1732 Pine St.
Rhein, Robert D., Fifteenth and Pine Sts.
Rhoads, Edward G., 159 W. Coulter St., Gtn.
Richards, Florence Harvey, 3708 Hamilton St.
Richardson, Bertha S. Hatfield, 2021 N. Thirteenth St.
Richardson, Neafie, S. E. Cor. Broad and Norris Sts.
Ridpath, Robert F., 1928 Chestnut St.
Riegel, Walter S., 5409 Vine St.
Rieger, Charles L. W., 1304 Rockland St.
Riesman, David, 1715 Spruce St.
Ring, G. Oram, N. E. Cor. Walnut and 17th Sts.
Risley, Samuel D., 2018 Chestnut St.
Rivard, Ruth Miller, 5031 Woodland Ave.
Rivas, Damaso, Med. Dept. U. of P., 36th & Pine Sts.
Roberts, John B., 313 S. Seventeenth St.
Roberts, Mercedes A., 1142 S. Eleventh St.

Roberts, Walter, 1732 Spruce St.
Robertson, William E.. 327 S. Seventeenth St.
Robinson, William C., 7132 Boyer St.
Robinson, William Duffield, 2012 Mt. Vernon St.
Robrecht, John J., 3940 Chestnut St.
Rochelle, Mary J., 628 W. York St.
Roddy, John A., 1604 Pine St.
Roderer, John F., 2426 N. Sixth St.
Rodgers, George R., 4631 Wayne Ave.
Rodman, J. Stewart, Medical Arts Bldg.
Rogers, Asa H., 911 W. Indiana Ave.
Rommel, John C., 1533 Cayuga St.
Roper, William F., 5439 N. Fifth St.
Rosenberger, Randle C., 2330 N. Thirteenth St.
Rosenfeld, Samuel, 1641 S. Fifth St.
Rosenthal, Joseph Morris, 700 E. Chelten Ave., Gtn.
Ross, George G., 1721 Spruce St.
Ross, Joseph H., 106 W. Susquehanna Ave.
Ross, Thomas C., 1701 Harrison St.
Rostow, Leo J., 1222 N. Seventh St.
Rothkugel, Paul, 2462 N. Thirty-Second St.
Roussel, Albert E., 2108 Pine St.
Rovno, Philip, 423 Pine St.
Rowand, Alexander H. C., 3704 Spring Garden St.
Royer, B. Franklin, Donaldson Bldg., Harrisburg (Dauphin Co.).
Rubenstone, Abraham I., 1704 E. Moyamensing Ave.
Rubin, Rose S., 881 N. Seventh St.
Rubin, Samuel, 1735 S. Eighth St.
Ruff, Adolph, 2555 N. Eleventh St.
Ruff, William F., 420 Preston St.
Ruffell, Charles E., 244 E. Girard Ave.
Rugh, J. Torrance, 1616 Spruce St.
Runkle, Stuart C., 1605 Christian St.
Ruoff, William, 1301 N. Thirteenth St.
Rupert, Mary P. S., Medical Arts Bldg.
Russell, Charles T., Jr., 2521 E. Norris St.
Ryan, Maria Page, 1246 S. Broad St.
Ryan, William C., 1229 N. Eighteenth St.
Ryan, William J., 701 S. Fifty-Fifth St.
Ryan, William John, 1856 N. Twenty-Third St.
Ryan, William J., 1535 Chestnut St.
Saalfrank, Charles W., 2d St. Pike and Levick St.
Sailer, Joseph, 1718 Spruce St.
Sajous, Charles E. deM., 2043 Walnut St .
Sajous, Louis T. deM., 2043 Walnut St.
Sallom, Abdullah K., 1441 S. Broad St.
Saltzman, Louis A., 1530 S. Fifth St.
Sargent, A. Alonzo, 1308 Pine St.
Sartain, Paul J., 2006 Walnut St.
Saunders, Griffin A., 2122 Fitzwater St.
Saunders, Robert Ritchie, 926 N. Fifteenth St.
Sautter, Albert C., 1421 Locust St.
Savidge, Edgar, 242 S. Twenty-First St.
Savitz, Samuel A., 1825 Tasker St.
Sawyer, William Alfred, Kirklyn, Llanerch P. O. (Del. Co.).
Saxon, Gordon J., 1411 Walnut St.
Saylor, Edwin S., 2005 Chestnut St.
Scarlett, Hunter Watt, 2228 Locust St.
Schaeffer, Clarence W., 117 S. Twentieth St.
Schaeffer, J. Parsons, 4634 Spruce St.
Schaffle, Karl, Box 417, Camp Hill (Cumb. Co.).
Schaller, Abraham L., 820 S. Fifth St.
Schamberg, Jay F., 1922 Spruce St.
Schantz, William A., 4533 Old York Rd.
Schatz, Harry A., 1408 Spruce St.
Schaubel, Charles W., 2346 E. Norris St.
Schaul, Otto Daniel, 4920 Woodland Ave.
Scheehle, J. Evans, 1504 Christian St.
Schell, J. Thompson, 1832 Diamond St.
Schetky, Martha G. K., 911 S. Forty-Eighth St.
Schisler, Belle A., 2835 Diamond St.
Schlaff, Herman, 4333 Wayne Ave.
Schmidt, William H., 1532 Erie Ave.
Schnabel, Truman G., 1805 Pine St.
Schneideman, Florence Mayo, 1831 Chestnut St.
Schneideman, Theodore B., 1831 Chestnut St.
Schoales, Charles B., 1428 N. Eleventh St.
Schock, Harvey E., 2048 Pine St.
Scholl, Alfred K., 4514 Chester Ave.
Scholl, B. Frank, 1420 N. Seventeenth St.
Schoonmaker, Irving R., 5223 Chester Ave.
Schreiber, William L., N. E. Cor. Thirteenth St. and Chelten Ave., Oak Lane.
Schumann, Edward A., Sixteenth and Sansom Sts.
Schwartz, Bernard S., 1020 Snyder Ave.
Schwartz, George J., 1831 Chestnut St.
Schwartz, Morris, 202 Ritner St.
deSchweinitz, George E., 1705 Walnut St.
Schwenk, Peter N. K., 1417 N. Broad St.
Scull, William B., 3024 Richmond St.
Seabold, William F., 5617 Spruce St.
Seabrook, Alice M., Twenty-Second St. and N. College Ave.
Segal, Bernhard, 1537 S. Sixth St.
Segal, Louis, 5124 Larchwood Ave.
Seiberling, Joseph D., 1807 Arch St.
Seidel, Victor I., 2338 N. Twenty-Ninth St.
Seifert, F. Robert, 2202 E. Cumberland St.
Seiler, Minnie Myrtle, 4017 N. Seventh St.
Seilikovitch, Solomon, 935 S. Third St.
Seiss, Ralph W., 255 S. Seventeenth St.
Seligman, Louis, 635 N. Franklin St.
Sender, Arthur C., 715 E. Rhawn St.
Severs, G. Harvey, 3401 N. Front St.
Shaffer, George E., 3608 Richmond St.
Shaham, Simon, Snyder Ave. and Ninth St.
Shammo, George C., 260 N. Fifty-Second St.
Shaner, Samuel Reed, 209 N. Sixtieth St.
Shannon, Charles E. G., 1402 Spruce St.
Shaw, John Joseph, 314 S. Broad St.
Shea, William K., 1705 N. Eighteenth St.
Sheaff, Philip Atlee, 4006 Baring St.
Shellenberger, Jacob R., 107 Schoolhouse Lane, Gtn.
Shepherd, Mary E., 1902 Diamond St.
Shepherd, Samuel Garfield, 2333 Wharton St.
Shields, William G., 414 Schoolhouse Lane, Gtn.
Shmookler, Henry B., 1320 S. Fifth St.
Shoemaker, George Erety, 1906 Chestnut St.
Shoemaker, Harvey, 2001 Chestnut St.
Shoemaker, William T., 109 S. Twentieth St.
Sholler, George W., 1224 W. Lehigh Ave.
Shuman, George H., 1105 Parre Bldg., Pittsburgh (Alle. Co.).
Shumway, Edward A., 2046 Chestnut St.
Shurtleff, Henry C., 31 S. Fortieth St.
Shute, Harry A., 1408 N. Fifteenth St.
Siegel, Alvin E., 1717 Pine St.
Silverman, Abraham, 1511 W. Girard Ave.
Simcox, Lawrence, 3752 Manayunk Ave.
Simkins, James J., 2002 N. Twenty-First St.
Simmons, Clifford F., 1939 Hunting Park Ave.
Simsohn, Joseph S., 909 N. Franklin St.
Sinclair, John F., 4103 Walnut St.
Sinexon, Justus, 3243 Chestnut St.
Sinkler, Francis Wharton, 1606 Walnut St.
Sinnamon, George, 2204 E. York St.
Siter, B. Hollingsworth, 1818 S. Rittenhouse Sq.
Skillern, Penn-Gaskill, 241 S. Thirteenth St.
Skillern, Penn-Gaskill, Jr., 241 S. Thirteenth St.
Skillern, Ross Hall, 1928 Chestnut St.
Skillern, Samuel R., Jr., 1928 Chestnut St.
Slaughter, Charles H. P., 1630 S. Broad St.
Slaymaker, John M., 3502 Spring Garden St.
Sloane, Henry O., 1737 N. Franklin St.
Small, William B., 1321 Spruce St.
Smiley, Anne Elliott, 5203 Haverford Ave.
Smith, Alexis Dupont, 5926 Greene St., Gtn.
Smith, Allen J., Thirty-Ninth and Locust Sts.
Smith, Caroline E., Perry Bldg., Sixteenth and Chestnut Sts.
Smith, Clarence D., 741 Spruce St.
Smith, Clarence N., 842 S. Fifty-Sixth St.

Smith, Henry A., N. E. Cor. Sixteenth and Oxford Sts.
Smith, J. Melvin, 1598 N. Fifty-Second St.
Smith, Joseph L., 1721 N. Seventeenth St.
Smith, Rolla L., 2987 Richmond St.
Smith, Samuel Calvin, 264 S. Sixteenth St.
Smith, S. MacCuen, 1429 Spruce St.
Snively, Andrew F., 5300 Market St.
Snively, Robley D., 1709 Tioga St.
Snodgrass, Oliver E., 2350 N. Nineteenth St.
Snyder, Elizabeth, 2002 Columbia Ave.
Snyderman, Henry S., 1920 N. Seventh St.
Somers, Lewis S., 3554 N. Broad St.
Sonneborn, George A., 1200 W. Erie Ave.
Spaeth, William L. C., 5000 Jackson St.
Spangler, Ralph H., 2217 S. Broad St.
Speese, John, 2206 Locust St.
Speirs, George Campbell, 4831 Baltimore Ave.
Spencer, George W., 1734 S. Fifty-Eighth St.
Spiegle, Grace E., 2115 N. Twelfth St.
Spiess, Walter G., 717 W. Allegheny Ave.
Spiller, William G., Twenty-First and Chestnut Sts.
Spitz, Louis, 4112 Girard Ave.
Sprague, Francis R., 1831 Chestnut St.
Sprissler, Theodore, 601 S. Ninth St.
Stahl, B. Franklin, 1727 Pine St.
Stamm, Camille J., 1412 Diamond St.
Stanton, John Joseph, 2415 Columbia Ave.
Starkey, Katherine, 5226 N. Carlisle St.
Steel, William A., 3300 N. Broad St.
Steinbock, Frederick W., 1338 N. Thirteenth St.
Steiner, Samuel, 943 N. Fifth St.
Steinmetz, Charles G., Jr., 622 N. Fortieth St.
Stellwagen, Thomas C., Jr., 1831 Chestnut St.
Stelwagon, Henry W., 1634 Spruce St.
Stembler, Harry A., 939 N. Eighth St.
Stengel, Alfred, 1728 Spruce St.
Stephan, George Louis, 7030 Rising Sun Ave.
Sterling, Alexander, 1531 N. Sixth St.
Stevens, Arthur A., 314 S. Sixteenth St.
Stevens, William W., 5722 Chester Ave.
Steves, Ernest J., Presbyterian Hospital.
Stewart, Francis E., 11 W. Phil-Ellena St., Gtn.
Stewart, Francis T., 311 S. Twelfth St.
Stewart, Thomas S., S. E. Cor. Eighteenth and Spruce Sts.
Stiles, Charles M., 1831 Chestnut St.
Stiles, Francis A., 3801 Powelton Ave.
Stimson, Cheney M., 1801 Cayuga St.
Stires, Ferdinand Taylor, c/o Mrs. J. D. Stires, 212 S. Forty-Sixth St.
Stirk, James C., 734 Yale Ave., Swarthmore (Del. Co.).
Stirling, Samuel R., 1931 E. Cumberland St.
Stirling, Warren, 215 S. Forty-Ninth St.
Stone, Edward R., 1701 Master St.
Stout, George C., 1611 Walnut St.
Stout, Oliver, 3351 N. Fifth St.
Stout, Philip Samuel, 4701 Chester Ave.
Strauss, Abram, Medical Arts Bldg.
Strawbridge, I. Rendall, 1418 N. Fifteenth St.
Strecker, Edward A., 4401 Market St.
Strecker, Henry A., 1318 Pine St.
Strickland, George G., 1437 Brown St.
Strickler, Albert, 4037 Girard Ave.
Strittmatter, Isidor P., 999 N. Sixth St.
Strobel, John, 1907 N. Broad St.
Stroup, A. Clarke, 1245 S. Twenty-Third St.
Strouse, Frederic M., 1301 N. Broad St.
Strousse, Jacob L., 1425 W. Erie Ave.
Stryker, Samuel S., N. E. Cor. Thirty-Ninth and Walnut Sts.
Stuckert, Harry, 2116 N. Twenty-First St.
Sturtevant, Charles N., 4321 Frankford Ave.
Suiter, David L., 218 E. Wyoming Ave.
Sutliff, Fred A., 1901 Cayuga St.
Sutton, Howard A., 314 S. Fifteenth St.
Swalm, Charles J., York and Rockland Sts.
Swalm, William Albert, 4901 N. Thirteenth St., Logan.
Swayne, Eugene, 1712 Wallace St.
Sweet, Josiah E., 301 St. Mark's Sq.
Sweet, William M., 1205 Spruce St.
Swindells, Walton C., 2049 Chestnut St.
Swoboda, Richard J., 143 E. Allegheny Ave.
Tait, Thomas W., 320 S. Fifteenth St.
Tallant, Alice Weld, 1200 Spruce St.
Talley, James E., 218 S. Twentieth St.
Target, John D., 1112 Jackson St.
Targette, Archibald F., 5229 Haverford Ave.
Tarrant, A. Overton, 748 S. Fifty-Seventh St.
Taylor, Charles F., 1520 Chestnut St.
Taylor, J. Madison, 1504 Pine St.
Taylor, Mervyn Ross, 1823 Spring Garden St.
Taylor, Robert F., 2064 E. Cumberland St.
Taylor, William J., 1825 Pine St.
Taylor, William L., 1340 N. Twelfth St.
Teller, William H., 1713 Green St.
Thissell, Henry N., 217 E. Graves Lane, C. H.
Thomas, Anne H., 3808 Locust St.
Thomas, Barton Kathcart, 324 High St., Pottstown (Montg. Co.).
Thomas, Benjamin A., 116 S. Nineteenth St.
Thomas, Charles H., 3634 Chestnut St.
Thomas, Eb W., 1833 Chestnut St.
Thomas, Frank W., 27 E. Mt. Airy Ave., Gtn.
Thomas, George P., 2113 N. Seventh St.
Thomas, T. Turner, 1905 Chestnut St.
Thomas, W. Hersey, 1445 N. Seventeenth St.
Thompson, Frank A., 5108 Springfield Ave.
Thompson, Ross Hall, 5427 Baltimore Ave.
Thorington, James, 2031 Chestnut St.
Thornton, E. Quin, 1331 Pine St.
Thornton, Mary Bickings, 2703 W. Somerset St.
Thrush, M. Clayton, 3705 Spring Garden St.
Thudium, William J., 330 S. Seventeenth St.
Tinker, John Stevenson, 1836 S. Seventeenth St.
Toland, J. Hart, 2526 S. Broad St.
Toland, Joseph J., 1621 Harrison St., Fkd.
Tomlin, Almer N., 518 N. Fortieth St.
Topper, John Albert, 5250 Spruce St.
Toulmin, Harry, S. E. Cor. Sixth and Walnut Sts.
Town, Edwin C., Jr., Narberth (Montg. Co.).
Tracy, Martha, 5138 Wayne Ave., Gtn.
Tracy, Stephen E., 1527 Spruce St.
Traganza, Frederick, 2009 N. Twenty-Second St.
Trau, Philip A., 1520 Diamond St.
Treichler, Elsie Rau, 1721 N. Tthirty-Third St.
Trinkle, Wilmer W., 1438 N. Thirteenth St.
Trexler, Henrietta M. Daugherty-, 923 W. Susquehanna Ave.
Trotman, James A., 1608 Wharton St.
Truitt, George W., 2425 E. Clearfield St.
Tucker, Henry, 2000 Pine St.
Tullidge, George B., 843 N. Sixty-Third St.
Tully, Edgar Warren, 2407 N. Broad St.
Tunnell, S. Wilmer, S. E. Cor. Dauphin and Fifteenth Sts.
Turner, Creighton H., 2504 S. Twentieth St.
Turner, John B., 1831 Chestnut St.
Turner, John H., III, 224 S. Forty-Fifth St.
Turner, John P., 1302 S. Eighteenth St.
Turner, Linton, 450 Lyceum Ave., Rxb.
Turville, Henry S., 5318 Market St.
Twaddell, Thomas P. H., 4203 Chester Ave.
Tyson, T. Mellor, 1506 Spruce St.
Ullom, Josephus T., 24 Carpenter St., Gtn.
Ulman, Joseph F., 2629 N. Twenty-Ninth St.
Ulrich, George A., 309 S. Twelfth St.
Umsted, William M., 2812 Oxford St.
Vail, William Penn, 1700 Walnut St.
Valentin, August Carl, 6609 Torresdale Ave.
Vance, David C., 2618 N. Eleventh St.
Vanderslice, Edward S., 127 S. Fifth St.

Van Dolson, William W., 7153 Boyer St.
VanDervoort, Charles A., Flanders Bldg., Walnut and Fifteenth Sts.
Van Gasken, Frances C., 115 S. Twenty-Second St.
Van Korb, William, 5623 Wyalusing Ave.
Van Pelt, William T., 1100 Widener Bldg.
Vansant, Eugene L., 1929 Chestnut St.
Vattier, Louis C., 5900 Girard Ave.
Vaux, Norris W., 8901 Germantown Ave.
Vitansa, Fortunato, 1216 S. Thirteenth St.
Voss, Frederick J., 2935 Richmond St.
Wadsworth, William S., 3914 Baltimore Ave.
Wagers, Arthur J., 4638 Larchwood Ave.
Walker, Jacob, 712 Pine St.
Walker, John K., 2038 Locust St.
Walker, John T., 1606 N. Eighth St.
Walker, Warren, 2038 Locust St.
Wallis, J. Edward, 2642 Richmond St.
Walsh, Joseph P., 2026 Chestnut St.
Walsh, William H., Medical Arts Bldg.
Walter, Frederick J., 432 Palmetto Ave., Datona, Fla.
Walters, B. Frank, Jr., Security Bank Bldg., Sioux City, Iowa.
Ward, E. Tillson, 1415 S. Broad St.
Warlow, Margaret A., 1831 Chestnut St.
Warmuth, Mitchell P., 1701 Chestnut St.
Watson, Arthur W., 126 S. Eighteenth St.
Watson, Edward W., 38 S. Nineteenth St.
Watson, W. Newbold, 1524 Chestnut St.
Watson, Walter W., 1712 Walnut St.
Watt, Charles C., Jr., Wayne Ave. and W. Hortter St., Gtn.
Watt, Robert, 2822 Frankford Ave.
Weaver, Albert P., 879 Belmont Ave.
Weaver, W. Warren, 6105 Woodland Ave.
Weber, Edith M. Clime-, 5906 N. Thirteenth St.
Weber, Harry F., 4601 Wayne Ave.
Weber, Randall J., 2403 N. Seventeenth St.
Weber, William L., 1101 W. Wyoming Ave.
Webster, Aubrey B., Medical Arts Bldg.
Weidman, Fred D., 242 N. Sixty-First St.
Weiland, Carl, Jr., 635 Vine St.
Weinstein, Morris A., 615 Pine St.
Weintraub, Sarah Louise, 1239 S. Broad St.
Weisblum, Maurice, 1639 S. Broad St.
Weisenburg, Theodore H., 1909 Chestnut St.
Weiss, Harvey B., 1920 N. Howard St.
Welch, William M., 1411 Jefferson St.
Wells, J. Ralston, 754 N. Fortieth St.
Wells, P. Fraley, 754 N. Fortieth St.
Wenner, Ellis B., 3805 Baring St.
Wentz, B. Frank, 6602 Woodland Ave.
Wenzel, Mary, 3628 N. Broad St.
Werner, Julius L., 1533 S. Sixth St.
Wessels, Lewis C., 1918 N. Twenty-Second St.
West, John W., 1125 Wallace St.
Westcott, Thompson S., 1720 Pine St.
Weyl, Esther M., 757 N. Twentieth St.
Whaland, Berta, 2335 Berks St.
Wharton, Henry R., 1725 Spruce St.
Whetstone, William B., 4820 Chester Ave.
Whitaker, William, 5448 Germantown Ave.
Whitall, J. Dawson, 2124 N. Twentieth St.
White, Courtland Y., 1808 Diamond St.
White, Ellen Pawling Corson-, 216 S. Fifteenth St.
White, Frank, 1302 N. Broad St.
Whiteway, Harold M., 1924 Chestnut St.
Whitlock-Rose, Elise, Twenty-Second and Delancey Sts.
Widdowson, Frank R., 1438 N. Sixtieth St.
Widmann, Bernard P., 1321 Spruce St.
Wieder, Henry S., 2137 N. Fifteenth St.
Wiggins, E. Harvey, 4415 N. Uber St.
Wiggins, Susan W., 1831 Chestnut St.
Wilcox, William B., 914 N. Forty-Fourth St.
Wiley, Harry Eugene, 1440 S. Broad St.
Wiley, Louis Russell, 600 W. Olney Ave.
Wilkinson, Richard Powers, 1312 S. Broad St.
Willard, DeForest Porter, Lansdowne (Del. Co.).
Williams, Carl, 69 Schoolhouse Lane, Gtn.
Williams, Philip F., 121 S. Twentieth St.
Williams, Rachel R., Eighth and Market Sts.
Williamson, Katherine A., 237 S. Thirteenth St.
Willitts, Charles H., 212 S. Thirteenth St.
Willits, Isaac P., 31 W. Walnut Lane, Gtn.
Wilson, George, 5000 Walnut St.
Wilson, James C., 1509 Walnut St.
Wilson, Samuel M., 1517 Arch St.
Winfield, Morris, 943 N. Fourth St.
Winter, S. Elizabeth, Inwood Sanitarium, West Conshohocken (Montg. Co.).
Wise, Henry M., 1640 Erie Ave.
Wojczynski, Leo J., 1716 Hunting Park Ave.
Wolf, Wilbert J., 3474 Frankford Ave.
Wolfe, Samuel, 1701 Diamond St.
Wolfson, Louis, 1735 N. Thirty-First St.
Wonders, Homer F., N. W. Cor. 16th and Walnut Sts.
Wood, Alfred C., 2035 Walnut St.
Wood, George B., 129 S. Eighteenth St.
Wood, Horatio C., Jr., 1905 Chestnut St.
Wood, Walter A., 255 S. Sixteenth St.
Woodbury, Frank, 218 S. Sixteenth St.
Woodward, George, 708 North American Bldg.
Woody, Samuel S., Second and Luzerne Sts.
Wray, William S., 2007 Chestnut St.
Wrigley, Arthur, 1019 Pine St.
Yaeger, Christian G., 2403 E. York St.
Yawger, Nathaniel S., 2117 Chestnut St.
Yeager, George C., 1419 E. Susquehanna Ave.
Yost, George G., 643 N. Sixteenth St.
Youell, George J., 730 E. Allegheny Ave.
Young, Anna Gardner, 417 E. Somerset St.
Young, Annie, Hamburg (Berks Co.).
Young, Charles H., 4813 Baltimore Ave.
Young, James K., 222 S. Sixteenth St.
Zabarkes, R. Vera, 3228 W. York St.
Zall, Bernard C., 923 N. Sixth St.
Zentmayer, William, 1506 Spruce St.
Zettlemoyer, Jonas, 5629 Whitby Ave.
Ziegler, Ella Ridgway, 2031 E. Allegheny Ave.
Ziegler, S. Lewis, 1625 Walnut St.
Ziegler, Walter M. L., 1418 N. Seventeenth St.
Ziegler, William H., 2031 E. Allegheny Ave.
Zimlick, Arthur J., N. E. Cor. Greene and Harvey Sts., Gtn.
Zimmerman, Mason W., 1522 Locust St.
Zulick, J. Donald, 1321 Spruce St.

POTTER COUNTY SOCIETY

(Organized April 5, 1898.)

President...John H. Page, Austin.
Sec.-Rept...Elwin H. Ashcraft, Coudersport.
Treasurer...Robert B. Knight, Coudersport.
Censors.....Jas. T. Hurd, Galeton.
E. H. Ashcraft, Coudersport.
J. H. Page, Austin.
Committee on Public Policy and Legislation:
Elwin H. Ashcraft, Coudersport.

Stated meetings the second Tuesday in January, April, July and October, at the courthouse, Coudersport. Election of officers in January.

MEMBERS (16)

Ashcraft, Elwin H., Coudersport.
Bentley, J. Irving, Galeton.
Church, Nathan W., Ulysses.
Colcord, Albert J., Port Allegany (McKean Co.).
Farwell, Franklin P., Galeton.
Hart, Henry D., Genesse.
Hurd, James T., Galeton.
Jacobs, David E., Coudersport.
Jones, Ross H., Coudersport.

Knight, Robert B., Coudersport.
Laye, Hal A., Galeton.
Page, John H., Austin.
Reese, F. Gurney, Coudersport.
Stearns, John S., Port Allegany (McKean Co.).
Steele, John G., Galeton.
Winlack, Alexander E., Shingle House.

SCHUYLKILL COUNTY SOCIETY

(Organized 1845.)

President...T. Lamar Williams, Mt. Carmel.
V. Pres.....L. D. Heim, Schuylkill Haven.
C. Gruhler, Shenandoah.
Sec.-Rept...G. R. S. Corson, Pottsville.
Treasurer...David Taggart, Frackville.
Censors.....J. S. Callen, Shenandoah.
C. Lenker, Schuylkill Haven.
L. T. Kennedy, Pottsville.
Exec. Com..T. Lamar Williams, Mt. Carmel.
G. R. S. Corson, Pottsville.
J. A. Lessig, Schuylkill Haven.
Committee on Public Policy and Legislation:
C. Gruhler, Shenandoah.
Patrick H. O'Hara, Pottsville.
H. C. Bowman, Gilberton.

Stated meetings in Pottsville (or elsewhere as may be selected) the first Tuesday of each month. Election of officers in January.

MEMBERS (93)

Auchmuty, John E., Tamaqua.
Barnd, Franklin P., Hegins.
Bartho, Benjamin F., Mt. Carmel (Northum. Co.).
Bergstein, A. M., Amsbry (Cambria Co.).
Berk, John K., Frackville.
Berkheiser, Arthur John, Shenandoah.
Biddle, Jonathan C., Ashland.
Boord, Paul C., 12 Lawn Ave., Uniontown (Fay. Co.).
Bowers, Walter G., Schuylkill Haven.
Bowman, Henry C., Gilberton.
Boyer, Gouverneur H., Pottsville.
Bredt, Charles E., Mahanoy City.
Bretz, Gilbert F., Pottsville.
Bronson, Albert F., Girardville.
Burns, J. V., Coaldale.
Carlin, Oscar J., Pottsville.
Carpenter, J. Stratton, Pottsville.
Constein, Rudolph A., Ashland.
Corson, George R. S., Pottsville.
Dailey, John Joseph, McAdoo.
Dechert, Harry W., Orwigsburg.
Dewey, Michael G., Girardville.
Donahue, John J., Frackville.
Doyle, William F., Pottsville.
Fegley, Theodore C., Tremont.
Fenton, Ivor D., Mahanoy City.
Fleming, Arthur B., Tamaqua.
Freudenberger, Katrina, Tamaqua.
Gillars, Alexander L., Pottsville.
Gillette, Claude W., Schuylkill Haven.
Gruhler, Christian, Shenandoah.
Halberstadt, George H., Pottsville.
Harding, Frederick B., Tamaqua.
Heim, Lyman D., Schuylkill Haven.
Heller, James B., Pottsville.
Hensyl, George S., Mahanoy City.
Hobbs, Harry K., Shenandoah.
Hoffman, J. Louis, Ashland.
Holderman, H. H., Shenandoah.
Householder, Merchant C., Pottsville.
Jones, William G., Tamaqua.
Keith, Elwin W., Minersville.
Kennedy, Louis F., Pottsville.
Kingsbury, Mary B., Pottsville.
Kramer, Joseph G., Pottsville.
Lenker, Christian, Schuylkill Haven.
Lessig, James Afred, Schuylkill Haven.
McCutcheon, Thomas O., Gordon.
McGurl, Thomas J., Minersville.
Matten, William H., McKeansburg.
Meikrantz, P. Ray, Pottsville.
Miller, Charles D., Pottsville.
Monahan, John S., Shenandoah.
Montelius, Ralph W., Mt. Carmel (Northum. Co.).
Moore, George H., Schuylkill Haven.
Moore, John J., Pottsville.
Mullahey, Leo Thomas, Shenandoah.
Murphy, Joseph T., 215 Mohantonga St., Pottsville.
O'Hara, Patrick H., Pottsville.
Price, Harvey A., Port Carbon.
Rentschler, Henry D., Ringtown.
Rentschler, Walter R., Ringtown.
Ressler, George W., Ashland.
Rhoads, John, Ringtown.
Roberts, J. Pierce, Shenandoah.
Robinhold, Lewis C., Auburn.
Rogers, Jerome B., Pottsville.
Roth, James P., Fountain Springs.
Roth, Victor T., Pottsville.
Ryan, John T., St. Clair.
Ryland, Albanus S., Valley View.
Rynkiewicz, Ella I., Shenandoah.
Santee, George O. O., Cressona.
Scanlan, William J., Shenandoah.
Schultz, J. William, Tremont.
Seligman, Abram P., Mahanoy City.
Shifferstein, Edgar E., Tamaqua.
Simonis, Arthur E., Tremont.
Stein, Newton Henry, Silver Creek.
Stein, William N., Shenandoah.
Stewart, Harry H., 307 W. Market St., Pottsville.
Straub, Elmer L., Minersville.
Striegel, John G., Pottsville.
Taggart, David, Frackville.
Wallace, Hamilton C., Pottsville.
Walter, Frank J., Pinegrove.
Warne, Joseph Lloyd, Pottsville.
Weaver, Robert F., St. Clair.
Weaver, William A., Coaldale.
Weisner, Edwin E., Tamaqua.
Williams, T. Lamar, Mt. Carmel (Northum. Co.).
Williams, William T., Mt. Carmel (Northum. Co.).
Wolfe, Robert M., Port Carbon.

SNYDER COUNTY SOCIETY

(Organized May 18, 1905.)

President...Percival, Herman, Kratzerville.
V. Pres.....R. W. Johnston, Selins Grove.
Sec.-Rept...Percy E. Whiffen, McClure.
Treasurer...Edwin M. Miller, Beavertown.
Censors..... Milton E. Wagner, McClure.

Annual meeting in January. Stated meetings at 11 a. m. (unless otherwise ordered), the first Friday of each month at Middleburg.

MEMBERS (17)

Brosius, Charles N., Shamokin Dam.
Decker, Elmer R., Montgomery (Lyc. Co.).
Hassinger, G. Edgar, Middleburg.
Herman, A. Jerome, Middleburg.
Herman, Percival, Kratzerville.
Johnston, R. W., Selins Grove.
Long, Dwight E., Freeburg.
Longacre, William W., Mt. Pleasant Mills.
Miller, Edwin M., Beavertown.
Rothrock, Marand, Mt. Pleasant Mills.

Shive, Simon D., McClure, R. D. 1.
Tool, Edward W., Selins Grove.
Wagenseller, Harry F., Selins Grove.
Wagner, Milton E., McClure.
Wagner, John O., Beaver Springs.
Whiffen, Percy E., McClure.
Williams, Edward C., Port Trevorton.

SOMERSET COUNTY SOCIETY

(Organized Oct. 29, 1889.)

President...G. F. Speicher, Rockwood.
V. Pres.....A. M. Lichty, Elk Lick.
Sec.-Rept...H. C. McKinley, Meyersdale.
Treasurer...Carl W. Frantz, Confluence.
Censors.....C. J. Hemminger, Rockwood.
I. C. Miller, Berlin.
C. I. Shaffer, Ralphton.
Committee on Public Policy and Legislation:
W. H. H. Schrock, Stoyestown.
C. B. Korns, Sipesville.
G. C. Berkheimer, Windber.
Prog. Com..C. P. Large, Meyersdale.
Henry Wilson, Somerset.

Stated meetings at place selected on the third Tuesday of January, March, May, September and November. Election of officers in November and offices assumed at January meeting.

MEMBERS (43)

Berkheimer, George C., Windber.
Bittner, Charles R., Hooversville.
Bowman, Jacob T., Somerset.
Dull, J. Earl, Somerset.
Frantz, Carl W., Confluence.
Grazier, George C., Hollsopple.
Heffley, Robert, Berlin.
Hemminger, Charles J., Rockwood.
Hemminger, Edward F., 10 Kirkland Ave., Philadelphia.
Hemminger, J. Ross, Somerset.
Hertzler, Henry, Jenners.
Kimmel, Henry S., Somerset.
Keim, Albert F., Davidsville.
Keim, William W., Jerome.
Korns, Charles B., Sipesville.
Kuhlman, Mosheim W., Jenners.
Large, Charles P., Meyersdale.
Lichty, Bruce, Meyersdale.
Lichty, Albert M., Elk Lick.
Long, Benjamin H., Boswell, R. D. 2.
Louther, Snyder J. H., Somerset.
McIntyre, Milton U., Boswell.
McKinley, H. Clay, 203 Salisbury St., Meyersdale.
McMillan, William T., Meyersdale.
Marsden, Henry Irving, Somerset.
Masters, George B., Rockwood.
Meyers, Herbert P., Confluence.
Miller, Irwin C., Berlin.
Noon, George A., Listie.
Pollard, Richard T., Garrett.
Rowe, William T., Meyersdale.
Saylor, Clinton T., Rockwood.
Schrock, William H. H., Stoyestown.
Shaffer, Charles I., Ralphton.
Shaffer, Fred B., Somerset.
Shaw, William P., Berlin.
Smeltz, George W., Markleton.
Speicher, George F., Rockwood.
Swank, Peter L., Elk Lick.
Uphouse, A. M., Hooversville.
Wenzel, John W., Meyersdale.
Wilson, Henry, Somerset.
Zimmerman, Henry A., Hollsopple.

SULLIVAN COUNTY SOCIETY

(Organized Aug. 9, 1907.)

President...W. H. Randall, Avis.
V. Pres.....P. G. Biddle, Dushore.
Sec.-Rept...Carl M. Bradford, Forksville.
Treasurer...J. L. Christian, Lopez.
Censors.....P. G. Biddle, Dushore.
Theodore Wright, Dushore.
Committee on Public Policy and Legislation:
Martin E. Herrmann, Dushore.
P. G. Biddle, Dushore.
J. L. Christian, Lopez.
Exec. Com..W. H. Randall, Avis.
C. M. Bradford, Forksville.

Meetings shall be held quarterly, the January meeting to be held at Dushore, the other meetings at time and place to be fixed by vote of the society or by the program committee.

MEMBERS (10)

Biddle, Philip G., Dushore.
Bird, Arthur J., Overton (Bradford Co.).
Bradford, Carl M., Forksville.
Christian, Justin L., Lopez.
Davis, Hugh K., Sonestown.
Herrmann, Martin E., Dushore.
Molyneux. Silas D.. Blossburg (Tioga Co.).
Randall, William H., Avis (Clinton Co.).
Swope, George C., Mildred.
Wright, Theodore, Dushore.

SUSQUEHANNA COUNTY SOCIETY

(Organized Nov. 19, 1838.)

President...William J. Condon, Susquehanna.
V. Pres.....C. W. Caterson, Montrose.
Sec.-Treas..E. R. Gardner, Montrose.
Reporter....Dever J. Peck, Susquehanna.
Censors.....F. S. Birchard, Montrose.
H. B. Lathrop, Springville.
W. W. Preston, Montrose.
Committee on Public Policy and Legislation:
Dever J. Peck, Susquehanna.
Exec. Com..William J. Condon, Susquehanna.
Edward R. Gardner, Montrose.
Abram E. Snyder, New Milford.

Annual meeting in Montrose the second Tuesday of January. Other meetings, morning and afternoon sessions, second Tuesday of May, August and October at places designated at previous meeting.

MEMBERS (19)

Birchard, Fred S., Montrose.
Blair, A. Stryker, Hallstead.
Caterson, Clarington W., Montrose.
Condon, William J., Susquehanna.
Denman, Arthur J., Susquehanna.
Fitch, Alpheus B., Factoryville (Wyoming Co.).
Fry, Harvey M., Rush.
Gardner, Edward R., Montrose.
Johnson, Charles A., Harford.
Miller, Morgan L., Susquehanna.
Park, William E., New Milford.
Peck, Dever J., Susquehanna.
Preston, Warren W., Montrose.
Snyder, Abram E., New Milford.
Taylor, Arthur J., Hopbottom.
Vanness, Clarence N., Hallstead.
Washburn, H. D., Susquehanna.
Williams, T. Oliver, Brooklyn.
Wilson, John G., Hillside Home, Clark's Summit (Lackawanna Co.).

TIOGA COUNTY SOCIETY

(Organized 1861. Reorganized Jan. 24, 1896.)

President...Henry C. Harkness, Mansfield.
V. Pres.....John H. Doane, Mansfield.
Sec.-Treas..S. P. Hakes, Tioga.
Cor. Sec....C. R. Smith, Tioga.
Reporter....L. G. Cole, Blossburg.
Exec. Com..H. C. Harkness, Mansfield.
S. P. Hakes, Tioga.
C. C. Gentry, Knoxville.
Censors.....F. H. Shaw, Wellsboro.
J. R. Davies, Blossburg.

Stated meetings the first Friday of each month at places selected. Election of officers in January.

MEMBERS (26)

Clark, Edwin E., Knoxville.
Cole, Lloyd Gamble, Blossburg.
Davies, John R., Blossburg.
Ditchburn, David T., Arnot.
Doane, John H., Mansfield.
Farrell, Howard M., Westfield.
Gentry, Clarence C., Knoxville.
Gentry, John M., Wellsboro.
Hakes, Solomon P., Tioga.
Harkness, Henry C., Mansfield.
Howland, Harry W., Gaines.
Humphrey, Wilmot G., Elkland.
Kennedy, F. H., Middlebury Center.
Kingsley, Harry O., Gillett (Brad. Co.).
Longwell, John P., Wellsboro.
Mastin, Nathan W., Wellsboro.
Nye, Orrin S., Rutland.
Secor, John C., Westfield.
Shaw, Farnham H., Wellsboro.
Sheldon, Charles W., Tioga.
Smith, Charles R., Tioga.
Smith, L. Chapman, Lawrenceville.
Webb, Clarence W., Wellsboro.
Wheeler, Edith Flower, Mansfield.
White, William F., Wellsboro.
Wilson, William Caldwell, Morris Run.

UNION COUNTY SOCIETY

(Organized July 27, 1904.)

President...Harry R. Thornton, Lewisburg.
V. Pres.....Thomas C. Thornton, Lewisburg.
Sec.-Treas..A. V. Persing, Allenwood.
Reporter....William E. Metzgar, Alvira.
Censors.....C. A. Gundy, Lewisburg.
William Leiser, Jr., Lewisburg.
Committee on Public Policy and Legislation:
O. W. H. Glover, Laurelton.
R. Steans, Lewisburg.

Stated meetings in either Bucknell Hall or Bucknell Laboratory, Lewisburg, the third Thursday of April, July, October and December. Election of officers in July.

MEMBERS (18)

Bikle, Paul H., Mifflinburg.
Dimm, Charles H., Mifflinburg.
Focht, Martin Luther, Lewisburg.
Gerhart, Weber L., Lewisburg.
Glover, Oliver W. H., Laurelton.
Gundy, Charles A., Lewisburg.
Hill, Albert Harrison, Mifflinburg.
Leiser, William, Jr., Lewisburg.
Matzke, Edith H., 805 Seneca St., Ithaca, N. Y.
Metzgar, William E., Alvira.
Persing, Amos V., Allenwood.
Sampsell, David M., Winfield.
Shields, Edgar T., Lewisburg, R. D. 2.
Steans, Ralph, Lewisburg.
Thornton, Harry R., Lewisburg.
Thornton, Thomas C., Lewisburg.
Wolfe, Lewis E., New Berlin.
Wolfe, Mary M., Lewisburg.

VENANGO COUNTY SOCIETY

(Organized May 8, 1867.)

President...James R. Sharp, Oil City.
V. Pres.....J. Irwin Zerbe, Franklin.
Sec.-Treas..John F. Davis, Oil City.
Censors.....William A. Nicholson, Franklin.
James B. Siggins, Oil City.
John B. Glenn, Franklin.
Committee on Public Policy and Legislation:
John F. Davis, Oil City.

Stated meetings on the third Tuesday of January, March, May, July, September and November at 1 p. m., in Franklin or Oil City. Two meetings each year are "outings" and are held at Monarch Park and the State Institution for Feebleminded. Election of officers in January.

MEMBERS (57)

Ashton, Charles H., Franklin.
Black, Burton A., Polk.
Bolton, Earle W., Oil City.
Bovard, Forrest J., Tionesta (Forest Co.).
Boyd, Irwin H., Oil City.
Bridenbaugh, Charles S., Emlenton.
Brown, Alexander M., Franklin.
Brown, Frederick W., Franklin.
Bruner, Paul, Oil City.
Cooper, Clifford, Titusville (Crawford Co.).
Crawford, John K., Cooperstown.
Cunningham, Paul R., Clintonville.
Davis, John F., Oil City, Box 28.
Detar, Carm Y., Oil City.
Dickey, Elmer L., Oil City.
Dille, George W., Cooperstown.
Dunn, Rose M., Franklin.
Dwyer, James E., Polk.
Gaynor, Henry B., Polk.
Gilmore, William G., Emlenton.
Glenn, John B., Franklin.
Hammond, Henry P., Franklin.
Imbrie, Clarence E., Cochranton (Crawford Co.).
Irwin, Thomas A., Franklin.
Jackson, Frank B., Oil City.
Jobson, George B., Franklin.
Jobson, William R., Oil City.
Kuhns, Edwin A., Emlenton.
Lamb, H. H., Oil City.
McBride, Lewis E., Franklin.
McDowell, Harry F., Franklin.
McDowell, Samuel W., Pittsville.
McKee, M. Ada, Oil City.
McLain, Paul J., Oil City.
Magee, F. Earle, Oil City.
Moore, Edwin W., 2825 29th St., San Diego, Calif.
Mount, Winnie K., Oil City.
Murdoch, J. Moorehead, Polk.
Nicholson, William Addison, Franklin.
Perrine, Jonathan B., Wesley.
Rickett, Audley W., 2004 Harriot Ave., Oil City.
Roth, William R., Ardmore (Montgomery Co.).
Serrill, W. W., Kellettville (Forest Co.).
Sharp, James R., Oil City.
Siggins, James B., Oil City.
Slater, Sidney A., Worthington, Minn.
Snyder, Charles P., Manor (Westmoreland Co.).
Spencer, Elwood P., Cooperstown.
Stone, Harry S., Franklin.
Strayer, Jacob P., Oil City.
Summerville, F. M., Oil City.

Thompson, Ardus C., Franklin.
Thompson, Edgar V., Franklin.
Vogan, David Earl, Marienville (Forest Co.).
Waid, John M., Titusville (Crawford Co.).
Wilkins, John C., Oil City.
Zerbe, J. Irwin, Franklin.

WARREN COUNTY SOCIETY

(Organized 1871. Reorganized Sept. 19, 1881.)

(Warren is the postoffice when street address only is given.)

President...C. J. Frantz, 128 Pennsylvania Ave. E.
V. Pres.....H. B. Russell, Sheffield.
George S. Condit, Warren.
Sec.-Treas..Edwin S. Africa, 304 Liberty St.
Reporter....M. V. Ball, 310 Third Ave.
Censors.....O. S. Brown, 6 Pennsylvania Ave. W.
G. T. Pryor, Sheffield.
M. V. Ball, 310 Third Ave.

Stated meetings the third Monday of each month. Election of officers in January.

MEMBERS (50)

Africa, Edwin S., 304 Liberty St.
Baker, Willis M., 205 Third Ave.
Ball, Michael V., 310 Third Ave.
Beaty, Elizabeth S., 10 Pennsylvania Ave. W.
Bennett, George Everett, 25½ N. Center St., Corry (Erie Co.).
Bonner, Clarence A., State Hospital for Insane.
Bradshaw, George M. B., Sugar Grove.
Briggs, Erwin S., Tidioute.
Brown, Otis S., 6 Pennsylvania Ave. W.
Chapman, LeRoy E., 1913 Pennsylvania Ave. E.
Christie, Milton H., Corry (Erie Co.).
Clancy, William Patrick, Clarendon.
Condit, George S., Warren.
Cowden, Ernest J., North Warren.
Darling, Ira A., State Hospital for Insane.
Durham, James R., 104 Market St.
Ellsworth, Adelaide, State Hospital for Insane.
Everman, Ord, Warren.
Finlayson, Alan, Warren.
Flatt, Anna H. S., Corydon.
Flatt, Clayton C., Corydon.
Frantz, Christian J., 128 Pennsylvania Ave. E.
Haines, Franklin G., 203 Third Ave.
Hamilton, John W., 106 Pennsylvania Ave. W.
Hyer, Irving G., Clarendon.
Kelley, Ernest J., Chandlers Valley.
Kibler, Charles B., Corry (Erie Co.).
Knapp, Ralph, Youngsville.
MacDonald, Alden B., 220 Liberty St.
McKee, Edwin D., 220 Liberty St.
Meals, Roy C., Columbus.
Mervine, Robert B., Sheffield.
Mitchell, Harry W., State Hospital for Insane.
Mitchell, Mary P., State Hospital for Insane.
Noeson, Frank T., Bear Lake.
Paige, Laverne D., Spring Creek.
Pryor, George T., Sheffield.
Robertson, William M., 418 Third Ave.
Russell, Hiram B., Sheffield.
Russell, John C., 207 Pennsylvania Ave. E.
Schmehl, Charles W., Warren Natl. Bank Bldg.
Schuler, Floyd G., 407 Pennsylvania Ave. E.
Shortt, William H., Youngsville.
Siggins, George, Tidioute.
Smith, Monroe T., 507 Pennsylvania Ave. E.
Stewart, Paul B., Warren.
Stewart, Richard B., 214 Liberty St.
VerMilyea, Charles H., Russell.
Weeks, Patrick H., State Hospital for Insane.
Weston, Paul, State Hospital for Insane.

WASHINGTON COUNTY SOCIETY

(Organized May 19, 1885.)

President...O. P. Dearth, 65 Morin Ave., Akron, O.
V. Pres.....H. M. Lacock, West Finley.
Sec.-Treas..C. C. Cracraft, Claysville.
Censors.....J. N. Sprowls, Claysville.
J. W. Hunter, Charleroi.
J. C. Kelso, Canonsburg.
Reporter....F. I. Patterson, Washington.
Librarian...G. B. Woods, Washington.
Committee on Public Policy and Legislation:
G. B. Woods, Washington.
W. D. Martin, Dunn's Station.

Stated meetings in rooms in New Armory Bldg., Washington, second Tuesday of each month except July and August at 2 p. m.

MEMBERS (112)

Alexander, William H., Canonsburg.
Ashbrook, R. L. E., Washington.
Bailey, Harry F., Monongahela.
Bell, David Major, 145 Center St., Canonsburg.
Beveridge, David, Washington.
Booth, Alexander Nelson, Bentleyville.
Braden, LeRoy W., Ten Mile.
Burns, William James, 111 West Chestnut St., Washington.
Carey, John Herschel, Prosperity.
Collier, Ewing L., Roscoe.
Conger, George R., Taylorstown.
Connor, Robert Evert, Hickory.
Corwin, James H., Washington.
Cracraft, Charles Clinton, Claysville.
Cummings, Ralph E., Bentleyville.
Dague, Samuel N., Houston.
Davis, Alden O., Charleroi.
Day, Minor H., Donora.
Dearth, Olie Post, 65 Morin Ave., Akron, Ohio.
Dickson, William R., McDonald.
Dodd, Cephas T., Washington, R. D. 6.
Donahoo, J. Frank, Washington.
Donaldson, Arthur Van E., Canonsburg.
Dunkle, Gaily Barr, Washington.
Edwards, David Henry, Washington.
Emery, Boyd Alfred, Eighty-Four, R. D. 1.
Enos, J. Clive, Charleroi.
Faddis, Thomas M. C., Charleroi.
Farquhar, John W., California.
Ferman, John W., Charleroi Bank Bldg., Charleroi.
Frantz, George B., Coal Center.
Furlong, R. Grant, Donora.
Gemmill, Walter D., Morganza.
Graves, Charles T., Monongahela.
Haines, Dempsey D., Allenport.
Hanlon, Torrance J., Donora.
Harsha, Charles Lloyd, Canonsburg.
Hart, William Ernest, Washington.
Hays, George K., Monongahela.
Hazlett, Edgar Marion, Washington.
Hazlett, Esten L., c/o W. W. Thompson, Avella.
Hindman, Audley O., Cross Creek.
Honesty, Leonard C., Washington.
Hunter, Joseph William, Charleroi.
Ildza, John W., Canonsburg.
Johnson, Elbin J., Claysville.
Johnston, John Alton, Canonsburg.
Kelly, George M., Washington.
Kirchner, Louis F., Washington.
Kelso, John C., Canonsburg.
Knox, Frank L., Claysville.
Lacock, Horace Mortimer, West Finley.
Lewis, Orville Garret, 841 Jefferson Ave., Washington.
Lewis, William H., Donora.
Linn, Charles Francis, Monongahela.
Lutz, Loyal G., Roscoe.
Lynch, Harry Pierce, 140 Main St., Monongahela.

McCarrell, David Leander, Hickory.
McCullough, Wm. John L., Slater Bldg., Washington.
McCullough, Clarence J., Washington.
McDonough, Oscar T., Washington.
McElroy, Joseph, Hickory.
McKay, Edwin M., Charleroi.
McKee, George L., Burgettstown.
McKennan, James Wilson, Washington.
McMurray, John Boyd, Washington.
McNinch, James R., West Alexander.
Manning, Milton F., Beallsville.
Martin, William Clayton, California.
Martin, William Douglass, Dunns Station, R. D. 2.
Maxwell, John Ralph, Washington.
Moore, Loyal H., Houston.
Murphy, George H., Monongahela.
Parry, Roger Sammons, 213 East Main St., Waynesburg (Greene Co.).
Patterson, Frank Iams, 188 Duncan Ave., Washington.
Patterson, Guy Egbert, Washington.
Patterson, John A., Washington.
Paxton, Cornelius P., California.
Perkins, G. Alden, Burgettstown.
Perry, E. Hunter, 407 Washington Trust Bldg., Washington.
Pierce, Albert J. B., Courtney.
Prowitt, Homer Persell, Washington.
Ramsey, George W., Washington Trust Bldg., Washington.
Repman, Harry Joseph, Charleroi.
Reynolds, John M. C., Washington.
Runion, A. LeGrand, Canonsburg.
Sargent, Larry Dodd, Frederickstown, R. D. 1.
Scott, Jesse Yeager, Washington.
Scott, William L., Joffre.
Sickman, A. S., Lock No. 4.
Smith, Robert Weightman, California.
Snodgrass, Henry Lane, Buffalo.
Sprowls, Jesse Addison, Donora.
Sprowls, John Nelson, Claysville.
Sprowls, William W., Houston.
Stahlman, Frederick C., Charleroi.
Stewart, Richard A., 26 E. Maiden St., Washington.
Stewart, Robert S., Washington.
Stewart, R. Vance, Monongahela.
Teagarden, William David, Washington.
Thompson, Albert Ely, Washington.
Throckmorton, Charles Benton, Canonsburg.
Underwood, Frank H., Monongahela.
Vieslet, Victor P., Charleroi.
Wall, Porter M., Monongahela.
Weirich, Collin Reed, Washington.
Wilson, James E., Canonsburg.
Wilson, Thomas Dent Mutter, Washington.
Wolfe, Russell Wilson, Taylorstown.
Wood, Charles Bennett, Monongahela.
Woods, George Brown, Washington Trust Bldg., Washington.
Weygandt, William W., Thomas.

WAYNE COUNTY SOCIETY

(Organized May 25, 1905.)

President...Louis B. Nielsen, Honesdale.
V. Pres.....Allan A. Berlin, Newfoundland.
Sec.-Treas..Edward O. Bang, South Canaan.
Censors.....Arthur J. Simons, Newfoundland.
Harry B. Ely, Honesdale.
Harry C. White, Ariel.
Committee on Public Policy and Legislation:
Fred W. Powell, Honesdale.
Edward W. Burns, Honesdale.

Stated meetings held the third Thursday of May, July, October and December at location decided on at previous meeting. Annual meeting in May.

MEMBERS (30)

Appley, William W., Cochecton, Sullivan Co., N. Y.
Bang, Edward Otto, South Canaan.
Bang, Sarah Allen, South Canaan.
Bennett, John E., Starrucca.
Berlin, Allen A., Newfoundland.
Brady, Robert W., Honesdale.
Burns, Edward Ward, Honesdale.
Cook, Alexander Marshall, South Canaan.
Corson, Charles G., Honesdale, R. D. 3.
Ely, Harry B., Honesdale.
Frisbie, Frank C., Equinunk.
Kenworthy, William B., Milford (Pike Co.).
Krauss, Walter R., Farview, Waymart.
Lobb, Frederick A., Hawley.
McClellan, Henry Joseph, Callicoon, Sullivan Co, N. Y.
McConvill, William T., Honesdale.
Merriman, George C., Lake Como.
Miller, Edwin S., Pleasant Mount.
Nielsen, Louis B., Honesdale.
Noble, Homer C., Waymart.
Parsells, Charles Wilson, Narrowsburg, Sullivan Co., N. Y.
Peterson, Pierson B., Honesdale.
Powell, Fred W., Honesdale.
Rodman, George T., Hawley.
Simons, Arthur J., Newfoundland.
Smith, Frank I., Shohola (Pike Co.).
Stevens, William A., 2101 N. Washington Ave., Scranton (Lackawanna Co.).
Tassell, William H., White Mills.
Voigt, Arno C., Hawley.
White, Harry Cummings, Ariel.

WESTMORELAND COUNTY SOCIETY

(Organized Nov. 15, 1859.)

President...Charles E. Snyder, Greensburg.
V. Pres.....John S. Anderson, Greensburg.
R. L. Wilson, Jeannette.
Sec.-Treas..M. W. Horner, Mt. Pleasant.
Reporter....L. F. Wilson, Greensburg.
Censors.....Thomas St. Clair, Latrobe.
J. C. Cope, Greensburg.
C. D. Ambrose, Ligonier.

There shall be twelve meetings of the society, one each month. All will be held in Greensburg, in City Hall, at 2 p. m., on the first Tuesday.

MEMBERS (143)

Abbaticchio, Nicholas, Latrobe.
Alexander, May M., Bolivar.
Ambrose, Charles D., Ligonier.
Ambrose, Jacob T., Ligonier.
Anderson, John S., Greensburg.
Ankney, Edward G., Pleasant Unity.
Aspey, Lewis S., Smithton.
Bailey, Jean C., Greensburg.
Bailey, Louis J. C., Greensburg.
Baldwin, Clifford C., Forbes Road.
Barkley, Hugh Baily, Greensburg.
Barkley, John W., Ligonier.
Barron, William M., Latrobe.
Beacom, Albert A., Mammoth.
Blackburn, Arthur B., Latrobe.
Blackburn, Ida E., Greensburg.
Boale, John A., Vandergrift Heights.
Bortz, Walter M., Greensburg.
Bowman, George, Irwin.
Brown, Walter H., Youngwood.
Burkholder, John Lewis, 401 E. Washington St., Mt. Pleasant.
Byers, W. Craig, Webster.
Caldwell, John D., Irwin.
Carnahan, Wm. J., 202 Washington St., Vandergrift.

Caven, Alva H., Youngwood.
Clifford, Edward M., Greensburg.
Cochran, Albert M., Salina.
Cole, Thomas P., Greensburg.
Cope, John C., Greensburg.
Copeland, William A., Vandergrift.
Cramer, Morgan J., Monessen.
Crawford, John S., Greensburg.
Crouse, Charles C., Derry.
Croushore, Charles C., Greensburg.
Day, Howard W., Monessen.
Dickson, George M., Adamsburg.
Dunlap, Effie Belle, Ligonier.
Ernest, Simon Peter, Delmont.
Easter, Daniel M., Youngwood.
Emerson, Howard B., Yukon.
Ewing, James R., Delmont.
Fairing, John Walker, Greensburg.
Farquhar, David Clifford, Monessen.
Ferguson, Rutherford Hayes, Herminie.
Fetter, William H., Scottdale.
Fichthorn, Lewis L., Avonmore.
Gilbert, Levi T., Scottdale.
Gray, Samuel Brown, Scottdale.
Greaves, John D., New Alexandria.
Griffith, Martin E., Monessen.
Haughwout, Bert, Derry.
Haymaker, William J., Export.
Highberger, Harry L., Madison.
Horner, Myers Worman, Mt. Pleasant.
Hunter, William D., Monessen.
Hutton, David S., Smithton.
Israel, Isaac Joseph, Monessen.
Jack, James Renwick, New Alexandria.
Johnson, J. Barton, Ligonier.
Jordan, David C., Derry.
Katherman, Frank C., Whitney.
Kepple, Adam S., Hannastown.
Kerr, Norman L., Scottdale.
Kimmel, Harry F., Derry.
Klingensmith, Thomas A., Jeannette.
Krebs, A. Bryan, Bolivar.
Kreger, Oliver J., Monessen.
Lawhead, James H., West Newton.
Leatherman, Daniel J., 215 Pennsylvania Ave., Greensburg.
Leatherman, Kate W., Greensburg.
Lemmon, James Quinn, Latrobe.
Lohr, Floyd D., Derry.
McAdoo, Elmer E., Ligonier.
McClellan, Robert P., Jr., Irwin.
McCormick, R. E. Lee, Irwin.
McDowell, William J., Scottdale.
McKee, Claude W., Greensburg.
McMurray, H. Albert, Youngwood.
McNish, George T., Alverton.
Marchand, John L., Irwin.
Mason, John C., Rillton.
Marsh, Florence L., Mt. Pleasant.
Marsh, William A., Mt. Pleasant.
Meghan, Alvin Ray, Latrobe.
Miller, George W., Greensburg.
Miller, Wesley W., Jeannette.
Montgomery, Mary L., Mt. Pleasant.
Moran, Thomas W., Latrobe.
Murdock, Dennis Ray, Greensburg.
Nealon, Stephen W., Latrobe.
Nesbit, Edwin L., Coulter Bldg., Greensburg.
Ober, Bert Frank, Latrobe.
Ober, Irwin J., Greensburg.
Owaroff, Abraham, Jeannette.
Painter, Theodore P., United.
Patton, James M., 147 Jefferson Ave., Vandergrift.
Pierce, Carl F., Greensburg.
Pile, Phillip S., Latrobe.
Piper, Ellsmer Landis, Export.
Pogue, Frank Milton, Trafford.
Poole, Charles H., Ruffsdale.
Portzer, Iden M., Greensburg.
Potts, William Joseph, Greensburg.
Prothero, Harold Ney, Jeannette.
Reese, Leroy J., Bolivar.
Reidt, Urban H., Jeannette.
Reiners, Charles R., Greensburg.
Ringer, Joseph H., Jeannette.
Robinson, John Q., Jr., West Newton.
Rugh, Carroll Bancroft, New Alexandria.
Rupert, David A., Webster.
St. Clair, Thomas, Latrobe.
Sankey, Lee Monte, Jeannette.
Schurgot, James A., Whitney.
Seaton, Charles F., Crab Tree.
Shelar, Joseph W., Mt. Pleasant.
Shirey, Charles A., Manor.
Silliman, James W., Bradenville.
Silsley, Nathaniel Eldridge, Scottdale.
Skirpan, John M., Monessen.
Sloan, Charles M., Madison.
Smith, L. B. Raymond, Jeannette.
Snyder, Charles E., Greensburg.
Snyder, Oscar B., Greensburg.
Speer, Ross H., Vandergrift.
Stahlman, Joseph C., Vandergrift.
Stauffer, Harry J., Jeannette.
Stockberger, Harry J., Claridge.
Strickler, Albert W., Scottdale.
Strickler, James P., Scottdale.
Taylor, Charles E., Irwin.
Taylor, William H., Irwin.
Tittle, Harry W., New Florence.
Waide, Arthur A., Scottdale.
Walker, D. Allison, Southwest.
Walker, Wilder J., 700 Wood St., Wilkinsburg (Alle. Co.).
Watkins, Benjamin M., New Derry.
Watson, Joseph H., Jeannette.
Wilson, Arthur R., Monessen.
Wilson, Louis F, 215½ S. Main St., Greensburg.
Wilson, Robert L., Jeannette.
Wright, Samuel S., Pleasant Unity.
Wynn, Charles A., Greensburg

WYOMING COUNTY SOCIETY

(Organized August 11, 1903.)

President...A. D. Tewksberry, Tunkhannock.
V. Pres.....Geo. M. Harrison, Meshoppen.
Sec., Treas.
and Rept..H. L. McKown, Tunkhannock.
Censors.....W. B. Beaumont, Laceyville.
K. J. French, Factoryville.
Committee on Public Policy and Legislation:
C. L. Boston, Center Moreland.

Annual meeting in Tunkhannock on the second Wednesday in January. Other meetings, not less than two, to be held as determined by vote of the society.

MEMBERS (12)

Beaumont, William B., Laceyville.
Boston, Clarence L., Center Moreland.
Decker, Van C., Nicholson.
French, Kennard J., Factoryville.
Harrison, George M., Meshoppen.
Kinner, George M., North Mehoopany.
Lazarus, William W., Tunkhannock.
McKown, Herbert L., Tunkhannock.
Merritt, T. Grey, West Pittston (Luz. Co.).
Niles, Ralph M., Nicholson.
Rauch, George B., Noxen.
Tewksberry, Anderson D., Tunkhannock.

YORK COUNTY SOCIETY

(Organized May 11, 1873.)

(York is the postoffice when street address only is given.)

President...John Gilbert, 373 West Market St.
V. Pres.....G. Elmer Krout, Jacobus.
G. Emanuel Spotz, 11 East Market St.
Sec.-Rept...N. C. Wallace, Dover.
Editor......J. E. DeHoff, 485 West Market St.
Treasurer...C. W. Eisenhower, 211 South George St.
Librarian...Wesley Stick, Hanover.
Trustees....Roland Jessop, 500 West Market St.
J. A. Melsheimer, Hanover.
M. M. Fleagle, Hanover.
Censors.....L. H. Fackler, 451 West Market St.
A. A. Long, 34 South Beaver St.
Exec. Com..John Gilbert, 373 West Market St.
N. C. Wallace, Dover.
A. A. Long, 34 South Beaver St.
Committee on Public Policy and Legislation:
J. H. Bennett, 38 North Beaver St.
E. W. Meisenhelder, Jr., Lincoln and Hartley Sts.
C. H. Gerry, Shrewsbury.

Stated meetings in York, in Colonial Hotel parlor, first Thursday of each month at 1 p. m. Election of officers in January.

MEMBERS (113)

Alleman, Horace M., Hanover.
Atkins, Joseph C., Red Lion.
Bacon, William F., 50 South George St.
Bahn, George W., Spring Grove.
Baird, Homer Dale, 452 South George St.
Barshinger, Martin L., 308 East Market St.
Bennett, John H., 38 North Beaver St.
Bittinger, Joseph H., Hanover.
Blanck, John K., Wrightsville.
Bortner, Clayton E., Hanover.
Bowers, Stewart C., New Freedom.
Bowles, George W., 112 West King St.
Brodbeck, John R., Codorus.
Butz, Raymond E., 103 East Market St.
Comroe, Julius H., 259 South George St.
Crawford, William L., Dillsburg.
Danner, William D., Glenville.
DeHoff, John E., 485 West Market St.
Delle, Oscar A., York New Salem.
Dice, Laura J., 151 South Queen St.
Dunnick, J. Nelson, Stewartstown.
Eisenhower, Charles W., 211 South George St.
Ellis, Robert L., Yoe.
Ensminger, Samuel H., 409 West Market St.
Fackler, Lewis H., 451 West Market St.
Farkas, Herman H., Heilwood (Indiana Co.).
Fleagle, Georgianna R., Hanover.
Fleagle, Maurice M., Hanover.
Frey, Clarence W., Dallastown.
Gable, Isaac C., 46 South Beaver St.
Gemmill, W. F., 404 East Market St.
Gerry, Carl H., Shrewsbury.
Gilbert, John, 373 West Market St.
Gittens, William W., 307 East King St.
Gress, Henry V., Manchester.
Gross, Jacob M., 706 West Market St.
Grove, Austin M., Lehmayer Bldg.
Haines, Charles LeRoy, c/o Naval Academy, Annapolis, Md.
Hamme, Curtis J., Dover.
Harbold, John T., Dallastown.
Hartman, Lawton M., 148 South George St.
Hetrick, Homer C., Lewisberry.
High, William B., 600 East Philadelphia St.
Hildebrand, Robert A., Glen Rock.
Hoke, Martin, Spring Grove.
Holtzapple, George E., George and Princess Sts.
Hoover, Benjamin A., Wrightsville.
Howard, James H., 137 South Beaver St.
Hyson, J. Miller, Red Lion.
Jamison, James L., Wrightsville.
Jessop, Roland, 500 West Market St.
Jones, Harry H., 743 East Market St.
Kain, John B., 414 East Market St.
Keagy, Charles A., Hanover.
King, Harry B., 257 East Market St.
Klinedinst, J. Ferdinand, 220 South George St.
Krout, G. Elmer, Jacobus.
Lau, Robert E., 1354 West Market St.
Lawson, Thomas A., Dallastown.
Lecrone, Harris R., 305 West Market St.
Long, Alfred A., 34 South Beaver St.
Lutz, J. Fletcher, Glen Rock.
McConkey, Frank Vance, 237 South Pine St.
McDowell, S. Ira, George and King Sts.
May, Charles H., 1207 North George St.
May, James C., Manchester.
Meisenhelder, Edmund W., Jr., Lincoln and Hartley Sts.
Meisenhelder, John E., Hanover.
Meisenhelder, Robert N., Hanover.
Melsheimer, John A., Hanover.
Miller, Joseph S., 3 East Market St.
Noll, Pius A., 117 South George St.
Overmiller, N. Allen, East Prospect.
Perry, George B., Fawn Grove.
Pfaltzgraff, Samuel K., 440 West Market St.
Posey, Benjamin F., Rupp Building.
Posey, David C., Bragueville.
Ramsey, R. Warren, Delta.
Rea, Charles, 107 East Market St.
Read, H. Malcolm, 535 West Market St.
Roberts, Sylvan J., Goldsboro, Etters P. O.
Seitz, Clyde LeGrande, Glen Rock.
Shatto, Arthur B., 220 South George St.
Shirey, Bernard W., 136 East Market St.
Sieling, Jacob H., New Freedom.
Small, J. Frank, 161 East Market St.
Smith, Charles H., 507 West Philadelphia St.
Smith, Gibson, Hartman Bldg.
Smithson, William H., New Park.
Snyder, Francis J., 342 South George St.
Spaeder, Phillip J., 131 South Beaver St.
Spahr, Charles E., 14 West Market St.
Spotz, G. Emanuel, 11 East Market St.
Stambaugh, Elmer S., 658 West Market St.
Sterner, Lewis H., 230 York St., Hanover.
Stick, Edward W., Hanover.
Stick, Wesley C., Hanover.
Strack, David, 1557 West Market St.
Uffelman, Harry W., Windsor.
Venus, Charles H., 817 East Market St.
Wallace, Nathan C., Dover.
Weakley, William S., 107 North George St.
Weaver, Louis S., 3 East Market St.
Wentz, Alexander C., Hanover.
Wentz, Parker N., 705 West Princess St.
Wertz, Theodore H., Hanover.
Williams, Louis V., Mt. Wolf.
Wise, Francis Roman, 3 East Market St.
Wolf, Charles N., Hellam.
Yagle, George N., Red Lion.
Yagle, James L., New Freedom.
Zech, Harry W., 1100 West Market St.

LIST OF PRESIDENTS OF THE STATE SOCIETY, 1848-1919

*1848.	Samuel Humes	Lancaster Co.
*1849.	Samuel Jackson	Philadelphia Co.
*1850.	Wilmer Worthington	Chester Co.
*1851.	Charles Innes	Northampton Co.
*1852.	Hiram Corson	Montgomery Co.
*1853.	John P. Heister	Berks Co.
*1854.	Jacob M. Gimmill	Huntingdon Co.
*1855.	James S. Carpenter	Schuylkill Co.
*1856.	Rene La Roche	Philadelphia Co.
*1857.	John L. Atlee	Lancaster Co.
*1858.	Smith Cunningham	Beaver Co.
*1859.	D. Francis Condie	Philadelphia Co.
*1860-61.	Edward Wallace	Berks Co.
*1862.	George F. Horton	Bradford Co.
*1863.	Wilson Jewell	Philadelphia Co.
*1864.	J. D. Ross	Blair Co.
*1865.	William Anderson	Indiana Co.
*1866.	James King	Allegheny Co.
*1867.	Traill Green	Northampton Co.
*1868.	John Curwen	Dauphin Co.
*1869.	William M. Wallace	Erie Co.
*1870.	Samuel D. Gross	Philadelphia Co.
*1871.	J. S. Crawford	Lycoming Co.
*1872.	A. M. Pollock	Allegheny Co.
*1873.	S. B. Kiefer	Cumberland Co.
*1874.	Washington L. Atlee	Philadelphia Co.
*1875.	Crawford Irwin	Blair Co.
*1876.	Robert B. Mowry	Allegheny Co.
*1877.	D. Hayes Agnew	Philadelphia Co.
*1878.	J. L. Stewart	Erie Co.
*1879.	Andrew Nebinger	Philadelphia Co.
*1880.	John T. Carpenter	Schuylkill Co.
*1881.	Jacob L. Ziegler	Lancaster Co.
1882.	William Varian	Crawford Co.
*1883.	Henry H. Smith	Philadelphia Co.
*1884.	Ezra P. Allen	Bradford Co.
*1885.	E. A. Wood	Allegheny Co.
*1886.	Rees Davis	Luzerne Co.
*1887.	Richard J. Levis	Philadelphia Co.
*1888-89.	J. B. Murdoch	Allegheny Co.
*1890.	Alexander Craig	Lancaster Co.
1891.	Samuel L. Kurtz	Berks Co.
1892.	Hehry L. Orth	Dauphin Co.
1893.	H. G. McCormick	Lycoming Co.
1894.	John B. Roberts	Philadelphia Co.
1895.	William S. Foster	Allegheny Co.
1896.	E. E. Montgomery	Philadelphia Co.
*1897.	W. Murray Weidman	Berks Co.
*1898.	Webster B. Lowman	Cambria Co.
*1899.	George W. Guthrie	Luzerne Co.
*1900.	Thomas D. Davis	Allegheny Co.
1901.	Francis P. Ball	Clinton Co.
1902.	William M. Welch	Philadelphia Co.
*1903.	William B. Ulrich	Delaware Co.
1904.	Adolph Koenig	Allegheny Co.
1905.	William H. Hartzell	Lehigh Co.
1906.	Isaac C. Gable	York Co.
1907.	William L. Estes	Northampton Co.
*1908.	George W. Wagoner	Cambria Co.
1909.	Theodore B. Appel	Lancaster Co.
*1910.	John B. Donaldson	Washington Co.
*1911.	James Tyson	Philadelphia Co.
1912.	Lewis H. Taylor	Luzerne Co.
1913-14.	Edward B. Heckel	Allegheny Co.
1915.	John B. McAlister	Dauphin Co.
1916.	Charles A. E. Codman	Philadelphia Co.
*1917.	Samuel G. Dixon	Philadelphia Co.
1917.	Walter F. Donaldson	Allegheny Co.
1918.	Frederick L. Van Sickle	Lackawanna Co.
1919.	Cyrus Lee Stevens	Bradford Co.

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* Deceased.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1919, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Atreol.—An aqueous solution containing as its principal constituent the ammonium salts of a mixture of organic acids containing nitrogen in the sulphonic radical which results from the action of sulphuric acid on certain petroleum distillates. Atreol is applied locally for promoting the absorption of swellings and effusions in contusions following fractures, etc. It is claimed to be useful in dermatologic and gynecologic practice. It may be used in aqueous solutions, ointments and suppositories. The Atlantic Refining Co., Philadelphia, Pa. (*Jour. A. M. A.*, May 17, 1919, p. 1463).

Gilliland's Concentrated and Refined Diphtheria Antitoxin.—Marketed in ampules containing 1,000, 5,000 and 10,000 units each. For a description of Diphtheria Antitoxin, Concentrated, see New and Nonofficial Remedies, 1919, p. 280. Gilliland Laboratories, Ambler, Pa.

Gilliland's Concentrated and Refined Tetanus Antitoxin.—Marketed in ampules containing 1,500, 3,000 and 5,000 units each. For a description of Tetanus Antitoxin, Concentrated, see New and Nonofficial Remedies, 1919, p. 266. Gilliland Laboratories, Ambler, Pa.

Gilliland's Antipneumococcus Serum, Type I.—Marketed in vials containing 100 c.c.; also in double ended vials containing 50 c.c. each, with a gravity injection apparatus for intravenous injection. For a description of Antipneumococcus Serum, see New and Nonofficial Remedies, 1919, p. 271. Gilliland Laboratories, Ambler, Pa.

Gilliland's Smallpox Vaccine.—Marketed in sealed capillary tubes in packages containing two tubes each. For a description of Vaccine Virus, see New and Nonofficial Remedies, 1919, p. 274. Gilliland Laboratories, Ambler, Pa.

Gilliland's Original Tuberculin, "O. T."—Marketed in 3 c.c. vials. For a description of Old Tuberculin, see New and Nonofficial Remedies, 1919, p. 277. Gilliland Laboratories, Ambler, Pa. (*Jour. A. M. A.*, May 17, 1919, p. 1463).

Barbital-Abbott Tablets, 5 Grains.—Each tablet contains 5 grains of barbital-Abbott (see New and Nonofficial Remedies, 1919, p. 82). The Abbott Laboratories, Chicago.

Procaine Hypodermic Tablets, ¾ Grain.—Each tablet contains ¾ grain of procaine-Abbott (see New and Nonofficial Remedies, 1919, p. 30). The Abbott Laboratories, Chicago.

Procaine-Adrenalin Hypodermic Tablets.—Each tablet contains procaine-Abbott ⅓ grain and adrenalin 1/2500 grain (see New and Nonofficial Remedies, 1919, p. 30). The Abbott Laboratories, Chicago (*Jour. A. M. A.*, May 17, 1919, p. 1463).

Protargentum-Squibb.—A compound of gelatin and silver containing approximately 8 per cent. of silver in organic combination. It has the actions and uses of silver preparations of the protargol type (see New and Nonofficial Remedies, 1919, p. 3007). Protargentum-Squibb is used in 0.25 to 5 per cent. aqueous solutions, prepared freshly as required. E. R. Squibb and Sons, New York (*Jour. A. M. A.*, May 24, 1919, p 1543).

Antimeningococcic Serum (Combined Type) (Gilliland).—Marketed in 15 c.c. ampules and in 15 c.c. and 30 c.c. cylinders with attachments for spinal administration. For a description of Antimeningococcus Serum, see New and Nonofficial Remedies, 1919, p. 270. Gilliland Laboratories, Ambler, Pa. (*Jour. A. M. A.*, May 24, 1919, p. 1615).

PROPAGANDA FOR REFORM

Phosphorus Metabolism.—The more recent investigations on digestion and absorption all point to the probability that phosphorus from the digestive tract reaches the general circulation only in the form of inorganic phosphates and that all organic phosphorus compounds are synthesized in the body cells. This is in support of the conclusion of the Council on Pharmacy and Chemistry in forming an estimate of the therapeutic potency ascribed to preparations of organically bound phosphorus, such as lecithin, glycerophosphates, phytin, macleic acid and phosphoproteins. All the newer researches give no indication that the body is dependent on a ready made supply of phosphatid (phosphorized fat) in the diet to maintain normal nutrition (*Jour. A. M. A.*, May 3, 1919, p. 1294).

Iodex.—Iodex is a black ointment marketed by Menley and James with the claim that it is a preparation of free or elementary iodin minus the objectionable features that go with free iodin. As a result of an investigation of Iodex made in the A. M. A. Chemical Laboratory, the Council on Pharmacy and Chemistry reported in 1915: 1. The composition is incorrectly stated; the actual iodin content is only about half of that claimed. 2. The action of Iodex is *not* essentially that of free iodin, although that is the impression made by the advertising. 3. The assertion that iodin may be found in the urine shortly after Iodex has been rubbed on the skin has been experimentally disproved. As the manufacturers of Iodex still persist in their claim that the product contains free iodin, the A. M. A. Chemical Laboratory has again examined Iodex. It reports that Iodex gives no test for free iodin, or, at most, but mere traces (*Jour. A. M. A.*, May 3, 1919, p. 1315).

Two Misbranded Nostrums.—Bull's Herbs and Iron Compound was a weak alcoholic solution containing iron, phosphates, sugar and vegetable derivatives, among which were quinin, red pepper, gentian and podophyllum. It was falsely and fraudulently represented as a remedy for weak nerves, ailments peculiar to women, scrofula, rickets, liver, kidney and bladder diseases, etc. Effervescente Granulare consisted of over 13 per cent. sodium bicarbonate, 61 per cent. of sugar, 3 per cent. of borax, and 17 per cent. potassium bitartrate. Though invoiced as "Eff. Magnesia" it contained no magnesia. Both were declared misbranded (*Jour. A. M. A.*, May 3, 1919, p. 1316).

Collosol Manganese.—Stephens, Yorke, Blacklock, Macfie, Cooper and Carter report in the *Annals of Tropical Medicine and Parasitology* the results of their investigation for the English government of Collosol Manganese conclude that Collosol Manganese in the dose used is of no value in the treatment of simple tertian malaria (*Jour. A .M. A.*, May 3, 1919, p. 1318).

Helpful Hints for Busy Doctors.—A comparatively recent issue of the *International Journal of Surgery* has an editorial on "The Questionable Etiology of the Present Epidemic," signed "G. H. Sherman, M. D." It was to the effect that one can best immunize against influenza by using "a combined vaccine containing the influenza bacillus, pneumococci, streptococci, the *Micrococcus catarrhalis* and staphylococci." In the advertising pages of the same issue was an advertisement of "Influenza Vaccine No. 38," which "Will abort Colds, Grippe, Influenza and Pneumonia," and which was made by "G. H. Sherman, M.D." The vaccine contained the various bacilli and cocci mentioned in the G. H. Sherman editorial. One wonders if in succeeding issues of the *International Journal of Surgery* one may look for editorials by the proprietors of Bellans, Phenalgin and other products advertised in the publication (*Jour. A. M. A.*, May 10, 1919, p. 1372).

Administration of Arsphenamine.—The U. S. Public Health Service has issued a circular concerning the dilution and the rate of administration of arsphenamine solutions. A study as to the cause of the disagreeable results following the use of the various preparations of arsphenamine has indicated that most disagreeable results are not inherent in the preparations but are produced through faulty steps in the administration of the remedy, chiefly from the use of a too concentrated solution and by too rapid administration (*Jour. A. M. A.*, May 10, 1919, p. 1372).

Lane's Asthma Cure.—The A. M. A. Chemical Laboratory reports that Lane's Treatment, double strength, for Hayfever and Asthma (formerly called Lane's Asthma Cure) was found to be essentially a solution of calcium iodid, alcohol and water, with vegetable extractives and sugar. It contained 3.96 Gm. of anhydrous calcium iodid, or about 2.5 grains per dose. Iodids have been used for years in the treatment of certain forms of asthma. Under careful supervision the use of iodids in selected cases of asthma may give decidedly satisfactory results. Self-dosing with iodids, however, is by no means free from danger (*Jour. A. M. A.*, May 10, 1919, p. 1386).

Tyree's Antiseptic Powder.—An advertising leaflet for Tyree's Antiseptic Powder recently received by a physician is devoted largely to a report of a bacteriologic examination of the Tyree preparation. The physicians who receive this advertising material might easily overlook the fact that the reported bacteriologic tests were made in 1889 and that the investigation of the Council on Pharmacy and Chemistry in 1906 brought out that the examination applied to a product differing radically in composition from that of the preparation now marketed. The Council found that although the Tyree preparation was advertised as a mixture of borax and alum, it was essentially a mixture of zinc sulphate and boric acid. Here then we have a manufacturer publishing in 1919, in behalf of a certain product, tests that were made in 1889 with a product of different composition although of the same name (*Jour. A. M. A.*, May 17, 1919, p. 1482).

Peptenzyme.—Peptenzyme was reported on by the Council on Pharmacy and Chemistry along with a number of other products of Reed and Carnrick in 1907. The report "Reed and Carnrick's Methods" announced that none of the products examined were eligible for New and Nonofficial Remedies. The following is an abstract of the report on peptenzyme: Peptenzyme elixir and powder are said to contain "the enzymes and ferments of all the glands which bear any relation to digestion"; therefore, the peptic glands, pancreas, salivary glands, spleen and intestinal glands. The preparations are said to be "not chemical extracts, but pure physiologic products." Apparently peptenzyme powder consists of the glands, dried and powdered, while the elixir is an extract. It is stated that these preparations digest proteids, starch and fat, and in addition stimulate and nourish the digestive glands, and that the ferments in these preparations do not interfere with or digest one another. Examination by the Council showed that these preparations were practically devoid of any power to digest proteids or fat when tested by the U. S. P. method. The claim that the product contained ferments which would not show this activity in the test tube, but become active in the alimentary canal, is contrary to known facts and could not be substantiated by the manufacturer. The claims made for peptenzyme powder and elixir were held to be unwarranted (*Jour. A. M. A.*, May 17, 1919, p. 1484).

THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

Volume XXII
Number 10

Chicago, Ill., and Athens, Pa., July, 1919

Subscription:
$2.00 Per Year

EIGHTH CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS

HELD UNDER THE DIRECTION OF THE DEPARTMENT OF LABOR AND INDUSTRY OF THE COMMONWEALTH OF PENNSYLVANIA

WILL'AM PENN HOTEL, PITTSBURGH, MARCH 14, 1919

MORNING SESSION

The meeting was called to order at 9:45 a. m. by the chairman, Dr. Francis D. Patterson, Chief, Division of Industrial Hygiene and Engineering, Pennsylvania Department of Labor and Industry.

Dr. Patterson: Please come to order. This is, as you know, our Eighth Conference of Industrial Physicians and Surgeons, and it will be our very great pleasure to have a word of welcome from Acting Commissioner Walter McNichols, of the Department of Labor and Industry, who will speak to us this morning. I take pleasure in introducing Acting Commissioner McNichols.

ADDRESS OF WELCOME

WALTER McNICHOLS,
Acting Commissioner, Pennsylvania Department of Labor and Industry
HARRISBURG

It is not my purpose to say anything of the probable work of this conference. Rather, the purpose of my few remarks will be to welcome you, the industrial physicians and surgeons of our state, to this conference, with the hope that the work may be of benefit, both to yourselves and, particularly, to the workers of this commonwealth. You are aware of the great amount of good that has already been accomplished by industrial physicians connected especially with the large plants in our commonwealth. We of the state inspection force realize, day by day, the tremendous amount of good that has been effected by your work. We have learned to lean on the advice given to the inspector by the physician attached to the works. We are also daily learning to lean on the industrial hygiene division of our department for advice concerning the sanitary arrangements of plants, and I know that your meeting today will be productive of very much good, both for your plants and for the state at large. I am very happy to be able to say these very, very few words to this conference.

TRAUMATIC HERNIA AND THE WORKMEN'S COMPENSATION BOARDS

FRANCIS D. PATTERSON, M.D.,
Chief, Division of Industrial Hygiene and Engineering, Pennsylvania Department of Labor and Industry
HARRISBURG

HISTORICAL

It can be stated, practically as an axiom, that the ascent of man and the descent of hernia were synchronous, for hernia, in practically every case (except those very rare cases where a traumatism causes a solution in continuity of the abdominal wall), is the result of a prenatal anatomical defect and should be classed as a disease and not as an accident.

The medical writers of antiquity were familiar with the subject of hernia, its symptomatology and its treatment; and our profession, from its great experience with hernia, became convinced that true traumatic hernia was so rare as to be a medical curiosity. Let us briefly consider a part of the evidence as to the frequency of hernia in general, and the etiology of traumatic hernia.

The Conference Board of Physicians in Industrial Practice has classified hernias as follows: (1) External ring admits tip of little finger, impulse felt; (2) external ring admits thumb, protrusion; (3) external ring patulous, bubonocele; (4) mass reaches external ring level; (5) mass scrotal. My experience in examining many hundreds of men for employment has convinced me that 10 per cent. of all applicants are in class 3, 4 or 5, and that another 50 per cent. are in class 1 or class 2.

It is not my intention to consider those cases of hernia where the traumatism results in solution of the continuity of the abdominal wall but, instead, to consider those very common cases wherein the hernia is alleged to have followed a slip, a strain, a misstep, a fall, a squeezing, a blow, or to have simply occurred while the individual was at his usual occupation. Upon questioning, we find that the usual history of these cases is that the patient did not notice the hernia at the time that it was alleged to have occurred, and possibly not until some hours or days later, when taking a bath. They will further state that there was no pain at the time of the alleged accident, nor was there vomiting, prostration, nor shock, and in many cases there has been no time lost from the time of the alleged acquiring of the hernia until the patient presents himself for examination for his claim. They always are invariably sure that the hernia developed as the result of an accident while at work.

When a case of this type is examined, we usually find a well-developed hernia, oftentimes with the sac within the scrotum; the hernia is usually easily reducible without pain, and further examination will show a large patulous ring which will admit sometimes two fingers. Usually the hernia is in the inguinal region and is of the oblique type which is the most common form of hernia. Berger with an experience of 13,483 hernia found 12,283 to be in that region.

Lauffer, "The Monitor, February, 1917," quotes many authorities on hernia among which are:

1. Dr. Herman Tillmans, University of Leipsic, Textbook of Surgery, says: "Traumatic Hernia is not true hernia. The hernial sac—that is, the true hernia—is always developed gradually, although an injury may, of course, act as part of the exciting cause. The supposed sudden development is always dependent upon a mistake in observation. The hernial sac, as a rule, is always present, but is empty, or the hernia already present at the time of the injury was so small as not to have been noticed. I, therefore, agree with Socin that a hernia from medicolegal point of view, is not to be designated exclusively as an 'injury.' The herniae supposed to have arisen suddenly in consequence of an injury are in a part a result of the traumatism, but are due in part to a special condition of the body, of the injured person, which already existed."

2. Dr. George Sultan of Prussia, "Atlas and Epitome of Abdominal Hernia," American Edition, edited by Dr. George Coley, Professor of Surgery, College of Physicians and Surgeons, N. Y., says: "In the critical examination of a casual relation between hernia and accidents we must remember first of all that a hernia, complete in all its parts, can never arise at the moment of an accident, or by a single augmentation of the intra-abdominal tension, be it ever so great. If the hernia first appears at the time of the accident, we may certainly suppose that the hernial sac was either congenital or gradually formed in the manner already described. Although it must be unconditionally accepted that a hernia making its appearance at the time of the injury has never completely developed at that moment, a casual connection must nevertheless be recognized, since a preexisting condition has been made worse by the accident or injury."

3. Dr. J. Chalmers DaCosta, Professor of Surgery, Jefferson Medical College, says: "A sac may exist for years and yet remain empty. When bowel or omentum enters it from strain or effort, the parts were long prepared to receive the extruded mass. This extrusion may occur suddenly. If it occurs suddenly the sufferer believes that his hernia was formed then and there, but, as a matter of fact, the extrusion of bowel or omentum and its entrance into the sac are but the last of a long series of antecedent and preparatory changes. Finally, a hernia appears and usually does so during effort."

4. Dr. William McAdams Eccles, "Hernia," says: "In the majority of cases a hernia is of gradual and slow formation and this without any tearing or breaking of tissue such as is clearly indicated in the use of the word 'rupture.' Thus it will be seen that the formation of the sac of hernia is a slow process, for the parietal peritoneum will neither stretch nor prolapse sufficient to produce a sac in a day or even in a week or two; in fact, it usually takes months for the sac to become really apparent."

5. Dr. Fraser in his article on "Rupture" in Von Bergmann's "System of Surgery," states: "Kingdon's statement that a hernia is a disease and not an accident, a pathological condition and not merely a mechanical lesion, applies to most cases of rupture. For if a condition appeared suddenly the physician seeing the case immediately will usually find evidence of more serious traumatic injury. It is perfectly possible that a hernia may have been gradually developing for some time and that owing to some accidental cause it suddenly increased rapidly in size, and becomes evident on inspection. It is quite common in young boys to have a loop of intestine come down suddenly in the vaginal process that has been open since birth. It is not uncommon also to have recurrence after radical operation appear all of a sudden, although this is not the usual procedure. The vast majority of acquired herniae in adults develop very gradually."

6. Drs. Coley and Satterwhite in their monograph on "Traumatism as a Factor in the Causation of Hernia," state: "From 1890 up to the present time, one of the writers has been connected with the Hernia Department of the Hospital for Ruptured and Crippled, and for more than six years has been in daily attendance. During this period upwards of 50,000 cases of hernia of different varieties have been observed and of this number there are only four in which there were good reasons to believe the hernia was the direct result of injury."

THE ATTITUDE OF THE COMPENSATION BOARDS

In order to secure information, a letter was sent to the Compensation Boards of the states having such laws upon their statute books, and the replies may be summarized as follows:

Connecticut: Fifty per cent. contested claims are allowed. Relatively large number of noncontested claims are settled by agreement between the parties. Compensation: Necessary medical and surgical attention and compensation during incapacity. Decisions: Large number by commissioners.

Indiana: Compensation asked for in 910 hernia cases from October, 1915, to October, 1918. Compensation granted in 216 hernia cases out of 321 asked for from October, 1917, to October, 1918. No statement as to what constitutes traumatic hernia. Compensation: Medical attention for 30 days and compensation during total disability. If operation impracticable or refused, compensation paid for 15 weeks.

Massachusetts: Hernia is compensated for if shown to have been caused by an injury or if preexisting tendency has been aggravated, as the result of an occupational happening.

Iowa: Compensation: Average is operation and compensation for convalescing period, usually not exceeding $100. Department has ruled that hernia to be compensable, must result from a specific accident or incident involving unusual conditions such as a strain or fall, or other fortuitous experience, which may be definitely described as to time and circumstance and attended by demonstrations of distress at the time the injury occurs. It is assumed that preexisting weakened condition, if such condition is not disabling does not defeat the claim, if the breaking down actually occurs in the course of the employment in the manner described.

Montana: Since July 1, 1915, compensation has been asked for in 45 cases of hernia. Compensation has been granted in 32 cases since July 1, 1915. Average compensation $325 in each case. The law provides, through the medium of Sec. 16 (j) as follows: "A workman in order to be entitled to compensation for hernia must clearly prove: (1) that hernia is of recent origin; (2) that its appearance was accompanied by pain; (3) that it was immediately preceded by some accidental strain suffered in the course of the employment; (4) that it did not exist prior to the date of the alleged injury."

Nebraska: Compensation asked for in 93 cases. Compensation allowed in 85 cases. Compensation averages between $100 and $175 per case.

Oregon: Number of hernias compensated for during 1915-1917 were 119. The board recognizes under the terms of the Oregon compensation act any hernia which makes its appearance or complete descent while in the course of employment and as the result of a strain or some similar occurrence which may be properly regarded as an accident.

West Virginia: Compensation given for surgical attention not to exceed $150 followed by compensation as for any other disability. In all claims for compensation for hernia resulting from injury received in the course of and resulting from employee's employment, it must be definitely proven to the satisfaction of the commissioner: First, that there was an injury resulting in hernia; second, that the hernia appeared suddenly; third, that it was accompanied by pain; fourth, that the hernia immediately followed an injury; fifth, that the hernia did not exist prior to the injury for which compensation is claimed.

Wisconsin: During 1915-1917 there were 491 cases of hernia received compensation. Amount of compensation in average case $142.

Nevada: No claim for actual traumatic hernia. Compensation allowed in 60 cases of hernia alleged to have come on during course of employment. Average compensation in 8 cases in 1917 was $109.08, in 11 cases in 1918 was $104.33. The Commission rules as follows:

"Rule I. Real traumatic hernia is an injury to the abdominal (belly) wall of sufficient severity to puncture or tear asunder said wall, and permit the exposure or protruding of the abdominal viscera or some part thereof. Such an injury will be compensated as a temporary, total disability, and as a partial permanent disability, depending upon the lessening of the injured individual's earning capacity.

"Rule II. All other herniae, whenever occurring or discovered and whatsoever the cause, except as under Rule I, are considered to be diseases causing incapacitating conditions, or permanent partial disability but the permanent, partial disability and the causes of such are considered to be as shown by medical facts—to have either existed from birth, to have been years in formation, or both, and are not compensatory except as provided under Rule III.

"Rule III. All cases coming under Rule II, in which it can be proven: First, that the immediate cause, which calls attention to the presence of the hernia, was a sudden effort or severe strain or blow received while in the course of employment; second, that the descent of the hernia occurred immediately following the cause; third, that the cause was accompanied, or immediately followed, by severe pain in the hernial region; fourth, that the above facts were of such severity that the same were noticed by the claimant and communicated immediately to one or more persons; are considered to be aggravations of previous ailments or diseases and will be compensated as such for time loss only and to a limited extent only, depending upon the nature of the proof submitted and the result of the local medical examination.

"Rule IV. Rules I, II and III, respectively, are adopted as general, tentative rules covering hernia cases, and are subject to revision, change, amplification or alteration with, or without, notice. The commission will not be bound by precedent. It holds that every case differs in some material feature from almost any other, and that each case depends for its decision upon the particular facts."

Washington: From October 1, 1911, to October 1, 1918, compensation allowed in 332 cases. No information as to the total number of hernia claims that were made. In the beginning before the department had the authority to compel a workman to have an operation performed, we allowed the sum of $175 as a permanent partial disability, and also time lost for approximately six weeks. Later the commission adopted the following rules governing compensation to claimants who have suffered hernia as the result of an accident, during their employment.

"Rule I. (a) There must be an accident resulting in hernia. (b) It must appear suddenly. (c) Be accompanied by pain. (d) Immediately follow the accident. (e) There must be proof that the hernia did not exist prior to the accident.

"Rule II. All herniae, inguinal or femoral, which are shown to come under Rule I, while the workman is engaged in his usual occupation and in the course of his employment, shall be treated in a surgical manner by radical operation. If death results from such operation, the death claim shall be paid and considered as a result of the accident.

"On these cases, time loss only shall be paid, unless it is shown by special examination that they have a permanent partial disability resulting after the operation. If so, it will be estimated and paid. Time loss between the date of accident and the date of operation will not be allowed if longer than five days.

"Rule III. The hernia claimant whose case comes under Rules I and II, who persists in wearing a truss instead of being operated, puts himself in the same position as the man with the fractured hip who refuses surgical attention. The commission may order him before a competent anesthetist to determine if he can safely take an anesthetic. If so, he must be operated on to receive his time loss during the recovery from operation. If, however, it is shown that he has some chronic disease that renders it unsafe for him to take an anesthetic, his disability will be estimated as a permanent partial disability and claim settled as such."

Now the commission compels operations in all cases. The average time loss in these cases is from six to eight weeks and average time award is $70 to $75. The disability is rated after the recovery from the operation.

New York: Exact data as to the number of cases not given. For the ordinary single hernia we pay 8 weeks compensation after the earliest time the claimant is operable and this plus the cost of operation, hospital expenses, etc. In a double hernia we pay 12 weeks with medical care. This virtually, by the practice of the commission, puts our hernia cases on a specific schedule basis although there is no such schedule in our law. We go on the theory that all hernias (except the pure traumatic hernias) are congenital and, therefore, we pay but for the disability resulting from the increased manifestation of hernia caused by the accident. In the few cases in which the operation is medically contraindicated we pay during disability. In the extreme cases this means permanent total. In other cases the disability is of short duration or the claimant goes on an impaired earning capacity basis. Of course, if the claimant is able to return to work within the time, we pay for the time out and not for the full 8 to 12 weeks. If the claimant refuses to be operated on, compensation is paid as above but without the hospital or medical care, i. e., for the 8 to 12 weeks only.

Minnesota: 1916-1917—168 hernias; $11,062 in compensation. Average $66 per case. Average disability 58 days. 1917-1918—237 hernias; $15,999 in compensation. Average $67 per case. Average disability 58 days. No record of the number of claims made.

Kansas: No data.

Arizona: No data.

Illinois: Our records show the payment of compensation for accidental injuries resulting in hernia in 1692 cases during the four years ending June 30, 1918. No record has been kept of the number of formal proceedings before the commission in which the question of traumatic hernia was involved. The average amount of compensation paid in the 1692 cases above referred to, is $129.50. Our opinion on this subject is expressed in the case of Dombkowski vs. Squire Dingee Company in which we stated in part, as follows:

"After an exhaustive perusal of the transcript and the weighing of the testimony submitted on review, the board is of the opinion that the whole question involved in this case simmers down to a question whether or not this man ever had a hernia before this accident. By this the board means a protrusion of the intestines so as to cause pain and suffering and render the employee incapable of following his usual line of employment. It will not suffice for the respondent to say that the injured person had a tendency to hernia, that he was predisposed, or that the hernia was of congenital origin. Many men go through life with those same symptoms and are never bothered and in many cases are never even cognizant of them. The board is of the opinion that the protrusion of the intestines through the inguinal rings, which is the first positive manifestation to the average laymen that he has a rupture, is an accidental injury coming within the scope and meaning of the workmen's compensation act of Illinois, even though the subject has a predisposition or a tendency to hernia."

Wyoming: Have very little data; five cases of hernia were compensated during 1918.

Oklahoma: From September 1, 1917, to September 1, 1918, one hundred and ten cases of traumatic hernia were reported to the commission. Our statistics were not compiled in such a way as to enable us to report the number of traumatic hernia cases in which the commission awarded compensation. The average award granted by the commission in cases of traumatic hernia is an operation with all expenses incident thereto to be paid by the insurance carrier and if such operation is accepted the injured is given four weeks compensation in addition.

Delaware: No data.

Ohio: We are unable to give you specific data as statistical facts required are unobtainable at the present time. In a general way, however, very few real traumatic hernias have occurred in the history of the Ohio Industrial Commission. We are considering hernia on the basis of an aggravating factor in a preexisting diseased condition. In cases where it can be shown the hernia did not exist prior to the alleged injury, and that the hernia made its final descent following some strain or direct trauma, we allow expense necessary for an operation and compensation for the period of disability as result thereof. In cases which are not operated, we allow for a truss and short period of disability. The rules under which we are working, are as follows:

"For the purpose of treating the subject of hernia in a just manner to both the employee and the employer and to be in accordance with the medical facts, the commission rules the following:

"Rule I. In all hernia produced by external violence or traumatism, directly applied to the abdominal or belly wall, puncturing or tearing the wall asunder, compensation shall be paid during the full period of disability.

"Rule II. Hernias which occur during the course of employment but not superinduced by trauma and all preexisting hernias are not compensable except as they may be aggravated by a contusion or other traumatism producing disability.

"Rule III. In all hernia where it is conclusively shown by medical proof that the immediate cause which calls attention to its presence, as a sudden effort, severe strain, sudden jerk or fall; that the descent of the hernia took place immediately following the cause; that it was accompanied or immediately followed by pain at the seat of injury; that the pain was of such severity that the same was noticed by the claimant and communicated as soon as possible to one or more persons; that there was a tumor mass felt at the seat of injury; that there was swelling, inflammation and hemorrhage present in the tissues; that there was, a few days subsequent, ecchymosis of the skin; that hernia produced in this manner and with such symptoms following, shall be compensated covering the full period of disability; that all medical fees including necessary operations, ambulance, nurse, or suitable truss shall be paid. Where a truss is worn, should strangulation or other conditions of a disabling character arise, dependent upon the existing hernia, disability arising from such conditions, shall not be subject to compensation nor any further medical expense, except operative treatment and all medical expense necessary to the complete relief of the condition."

Utah: No statistics as to number of cases or amount of payments. The policy of the Industrial Commission is: (1) The issue of predisposition to hernia is regarded as unimportant. (2) Any hernia, whether complete or incomplete, resulting from strain or wrench or other industrial injury is compensable. (3) A chronic hernia, if injured or aggravated by injury, is not ordinarily compensable. (4) An incomplete hernia, that is merely incipient, subsequently completed through an independent injury, will ordinarily be compensable. (5) In hernia cases it is not necessary that the evidence must be shown that an immediate collapse or disability on the part of the injured person occurred. There should, however, be proof of pain or discomfort accompanying the alleged injury sufficient at least, to cause pain and complaint, with corroboration, if possible. (6) A moderate permanent disability indemnity will be allowed for hernia in those cases where operation for the radical cure of the same is for any reason not advisable and the commission will be disposed to approve any reasonable compromise and settlement between the parties in such cases. (7) In all cases of hernia in which the commission shall find the injury remediable by operation, the applicant will be awarded such operation as a part of the medical, surgical and hospital treatment to which he is entitled to cure and relieve him from the effects of the injury. The expense thereof must be paid by his employer or insurance carrier. If the operation is not offered to the applicant he may secure it, charging the reasonable expense thereof to the employer or insurance carrier. In all such cases the applicant will be denied further compensation if he refuses either to accept or secure operative relief. (The policy outlined is intended to serve as a guide and cannot be considered as binding in all hernia cases.)

New Jersey: We are unable to segregate traumatic hernia cases from others, and by others, we mean those cases which develop in the course of occupation without the evidence of real violence. We have had hundreds of cases in this state and the courts have made no discrimination. During the first five or six years, the average award is about sixty weeks, whether traumatic or otherwise. There has been a tendency of late to lower this figure. Possibly forty weeks might represent the later awards.

Pennsylvania: Cases of hernia reported to the Department of Labor and Industry:

1916—1254 cases reported.
698 compensated.
10 fatal.
1917—1792 cases reported.
743 compensated.
16 fatal.
1918—1576 cases reported.
1115 compensated.
22 fatal.
Totals:
4622 reported.
2556 compensated.

No figures available as to the compensation payments. The decisions of the Compensation Board in Pennsylvania in many cases have followed the decision in the case of Smith vs. Pittsburgh Coal Company, which award was later affirmed by Common Pleas Court of Allegheny County.

CONCLUSION

There seems to be a strong feeling among employers of labor that they are bearing the cost of, and therefore being penalized for, a congenital defect in certain of their employees; the awards of the Compensation Boards through the country would seem to justify this feeling.

What is the solution of this present situation?

In my judgment, Judge Shafer of Allegheny County, in the conclusion of his opinion in Smith vs. The Pittsburgh Coal Company, clearly indicated what should be done when he said "The danger of fraud upon employers in such cases, which is no doubt a real danger, may be a matter for regulation by law." And so, for your consideration, I suggest the following amendment to the Compensation Law of this and every other state:

> Hernia is a disease which ordinarily develops gradually, being very rarely the result of an accident. Where there is real traumatic hernia resulting from the application of force directly to the abdominal wall, either puncturing or tearing the wall, compensation will be allowed. All other cases will be considered as either congenital or of slow development and not compensable, being a disease rather than an accidental injury, unless conclusive proof is offered that the hernia was immediately caused by such sudden effort or severe strain that: first, the descent of the hernia immediately followed the cause; second, that there was severe pain in the hernial region; third, that there was such prostration that the employee was compelled to cease work immediately; fourth, that the above symptoms were of such severity that the same were noticed by the claimant and communicated to the employer within twenty-four hours after the occurrence of the hernia; fifth, that there was such physical distress that the attendance of a licensed physician was required within twenty-four hours after the occurrence of the hernia. In the case of hernia as above defined, compensation shall be paid until such time as the employee is able to resume some kind of work with the aid of a truss or other mechanical appliance. If the employee refuses to permit of an operation, the employer shall meet the requirements above specified, pay the reasonable costs of the truss or other appliance found necessary, and also pay compensation for twenty weeks, following which his obligation shall cease and terminate, unless death results from the hernia, in which case the compensation shall be paid. However, if the employee shall elect to undergo an operation, by a physician selected by the employer, the employer shall meet all the expense incident to such operation and recovery, not in excess of one hundred and fifty dollars, together with compensation as provided during the periods of disability prior to and following the operation, as provided in the Act. If the employee refuses the services of the physician selected by the employer, preferring one of

his own selection, the employer shall be relieved of obligations concerning medical expense due to the operation and recovery, but shall pay compensation during the prior and resulting periods of disability. If death results from the hernia or operation, compensation shall be paid to the dependents in accordance with the terms of this Act.

Were such a definition of hernia, the law in all states would assure compensation to those who suffered a true traumatic hernia as the result of personal injury arising out of or in the course of their employment, and it would give to this much disputed question the regulation of specific law which would be fair to employee, to employer and to the commonwealth.

Dr. Patterson: This discussion on the chairman's address will be opened by Dr. Frederick L. Van Sickle, whom I take great pleasure in presenting to you.

DISCUSSION

Dr. F. L. Van Sickle, President, Medical Society of the State of Pennsylvania, Olyphant: I assume, for the purpose of discussion, that the subject of hernia is, as yet, an unsettled one, so far as its absolute cause is concerned; for if the medical profession had settled the question of its being a traumatic disease, or a condition occurring traumatically, the paper of this morning and this discussion would not have been necessary. I feel, however, that this is one of the very important subjects that we have to consider. I believe that in the very near future the medical profession of this state will be called on not only to treat surgical cases, but medical cases under the Compensation Law. I assume, also, that we must come to some definite conclusion in regard to the matter at some time; and I feel that it should be one in which the medical profession should go on record as having a definite opinion as to whether the condition is traumatic or is not traumatic.

History and tradition have often been the stumbling block of progress along many lines. Medical tradition is not exempt in this respect. In the past centuries the statement was made that hernia was of traumatic origin; it was believed by the people and continued as a tradition. What physicians have said in good faith to the people is, or at least has been, believed and remembered by the people, and this statement, that hernia was produced by straining and by occupation, was accepted and it became a *traumatic affection*, notwithstanding the physicians have endeavored to recant their original belief.

In looking over the authorities of early days, we find that the trouble was that many of them were convinced that hernia was a condition produced by strain and placed their opinion on record in medical books. Medical men, reading these books, were also convinced that the condition was caused by strain, and, hence, called it traumatic. I believe that we must have some definite ground to stand on in relation to traumatism in cases in which we cannot absolutely prove the method of the hernia's production. As the chairman stated, the ascent of man and the descent of hernia were synchronous, yet it has always been the subject of fierce discussion on the part of anatomists and surgeons. Now, in our own century, when the question of finding out the origin of the hernia has become so essential, someone must present an argument that is conclusive.

Moorhead has given us some good points. It has been proved that only 2 per cent. of the hernias should come under the head of traumatic. Moorhead gives only two instances of positive traumatic hernia, and says that in his experience he found very few, if any, cases of hernia at operation in which the sac was not of long standing, even though it might have been a very small one.

We have some things to consider in regard to the relation of hernia to the Workmen's Compensation Act:

1. Can we, by any twist of the imagination, place hernia in the list of compensable diseases? Is it not a condition that is, to a great extent, congenital, and not acquired? If all hernias are primarily congenital, does a simple strain, a severe strain, or any kind of violence whatever by which a straining can be produced bring it under the head of compensable diseases? Should hernia that has existed from childhood be compensated for or operated on at the expense of the employer?

Moorhead says that one in every thirty males has an inguinal hernia. He also says that it is equally well known that rupture may for a long time exist, unknown to the possessor; and that if any symptoms arise, they are often ascribed to a variety of other causes, until the true origin is demonstrated by examination. He goes on to say that at one time, "trauma," used in a very general sense, was supposed to be the essential cause; but that of late, this idea has been practically abandoned, the prevailing view being that a hernia is of gradual development. A preformed sac or pouch of peritoneum is almost invariably present. "Trauma is the rarest of all causes, and no single or isolated act of ordinary violence ever produced a fully formed hernia." There are, however, some that are so weak in the natural barriers that they predispose to the occurrence of rupture, where sneezing, coughing or something of that kind will produce the condition. Nevertheless, the experience of medical examiners of the draft boards of the United States gives ample material from which to deduce the fact that open rings, large enough to put the forefinger through, may exist in laboring men with no evidence of hernia. Thousands of such open rings were found in those going into the army through the draft or by volunteering. The mere fact that hernia has been accepted and paid for by employers in Workmen's Compensation is no argument that it should have been. It was the easiest way out of the situation, and it was impossible to disprove the traumatic origin.

It is, then, largely a question of physical examination. If such examinations had been in effect prior to the passage of the Workmen's Compensation Act, and this question had been settled, we should not be obliged to say to the employer, "This is a traumatic hernia and should be operated on, and you should pay the bill." We could say, "This is a hernia, but a hernia is like heart disease or any other disease. We do not know when it began, and we have no right to say that you must pay the employee." But we are still on debatable ground, and cannot do this.

Physical examinations should be made before allowing men to begin an occupation; and if signs of hernia be found, the conditions predisposing to hernia should be so regulated by law that the cost of operation should be paid by the employer, if hernia be produced in the course of the occupation. When hernias are present at the beginning of an engagement or occupation, any increase in incapacity due to that condition should not be compensated for any more than if it were due to heart disease, tuberculosis, cancer or any other chronic ailment. Medical men should take a more emphatic stand, and say that as traumatic hernia is of only 2 per cent. occurrence, this condition is merely the exception that proves the rule; that hernia is not a result of trauma, and is, therefore, not compensable.

Dr. Patterson: In view of the fact that Dr. George E. Tucker, of the Aetna Life Insurance Company, Hartford, Conn., who is on the program to continue the discussion, has not arrived, I will ask Dr. A. W. Colcord of the Carnegie Steel Company of Clairton to continue the discussion.

Dr. A. W. Colcord, Clairton: A year ago I had the pleasure of talking on the subject of hernia to this body, and what I thought then corresponds so nearly to what I think now that I do not feel that I ought to say much at this time. I have already gone on record concerning my opinion of traumatic hernia. My opinions are based on the examination of something like twelve thousand men with especial regard to the relation of open rings to hernia. I want to repeat, for the benefit of those who were not present last year, that in my opinion the largest number of hernias met with by the medical examiner and the industrial physician are not of traumatic origin. They are either congenital or acquired. The congenital ones appear before the age of 30; the acquired ones after this age and come through senility, bad housing, bad sanitation, arteriosclerosis, etc. I am convinced from my own observation that these acquired cases form the great majority of those coming to the industrial surgeon. It is not simply an open ring but a general breaking down of the whole hernial wall. They are quite prevalent among Greeks. We do not get them in young Greeks, any more than we do in young Americans; but we do get them after the age of 35, on a rapidly ascending scale. As shown by Berger of Paris in his analysis of 10,000 cases, the incidence rapidly rises from the age of 30 to that of 45 years, and I believe that these are the presenile cases.

That does not make it any less true that they are not compensable. If a man, by bad living, bad sanitation, or syphilis, congenital or acquired, gets hernia his employer should not be asked to foot the bill. Hopkins of Chicago has operated on several thousand of these cases and he agrees with me that the larger number of hernias found in the races of Southern Europe are due to presenility. He has been one of the leaders in fighting against compensation for "pathological hernia."

Dr. Van Sickle says that only 2 per cent. of hernias are traumatic. I do not believe that that number are, in the real sense, traumatic, but certainly not more than 2 per cent. It is a matter that is alarming and one that should be condemned by every earnest surgeon, that 4,000 cases have been compensated in the last three years in Pennsylvania. I quoted at length, last year, Commissioner Leech's decision. It is a splendid lawyer's decision, but a miserable surgical one. We should raise our voices against the injustice that is being perpetrated in our state. It is all based on a wrong conception of what hernia really is. It is a disease. It is not caused by occupation, or accident, or trauma — except in those rare cases that we see only once in a lifetime. In these, it is caused by direct violence to the abdominal wall, sufficient to cause a break and allow the protrusion of the viscus, or by an enormous increase in the intra-abdominal pressure, such as would be produced by a fall of 100 feet or by a horse falling on a man and bursting a hole in his belly. That is traumatic hernia.

When I get to talking about this, I get so earnest that I do not know when to stop. Dr. Van Sickle says that the question is unsettled. It is time that surgeons settled it—at least among themselves. One of the reasons that we cannot influence compensation boards and courts more is because we are not a united profession. They got $4,000 last year in Wisconsin out of a company on account of traumatic hernia, when it was not traumatic at all. It was operated on at the employer's expense. Some time later the man developed appendicitis and died of it; and the heirs sued the company before the Compensation Board for $10,000, and got the award of $4,400. We are not a united profession, for they got a doctor to swear that in his opinion the appendicitis was caused by the hernia and the operation for its radical cure, and that the appendicitis caused the man's death. A doctor, right on the stand, gave that testimony. I hope that you will adopt the resolution as offered by Dr. Patterson. It does not go far enough, however, for under those conditions a malingerer could simulate every one of them and get compensation. But it is a long move in the right direction.

Dr. Patterson: This subject is open for general discussion. It seems to me that we, today, have no more important subject before the industrial surgeon than the problem of whether these cases of hernia are to be compensated simply because the employee needs the money. Let us have the subject aired, and discussed from every standpoint, and see whether we cannot get legislative enactment to stop this abuse. Dr. Lauffer, what do you think? You have had cases among your employees. Tell us your opinion.

Dr. C. A. Lauffer, Westinghouse Electric and Manufacturing Company, East Pittsburgh: May I ask that you read again the five points, in regard to the type of acquired hernia that it is proposed should constitute traumatic hernia.

Dr. Patterson, reading: "All other cases will be considered as either congenital or of slow development and not compensable, being a disease rather than an accidental injury, unless conclusive proof is offered that the hernia was immediately caused by such sudden effort or severe strain that: (1) The descent of the hernia immediately followed the cause; (2) that there was severe pain in the hernial region; (3) that there was such prostration that the employee was compelled to cease work immediately; (4) that the above symptoms were of such severity that the same were noticed by the claimant and communicated to the employer within twenty-four hours after the occurrence of the hernia; (5) that there was such physical distress that the attendance of a licensed physician was required within twenty-four hours after the occurrence of the hernia."

Dr. Lauffer (continuing): I had the pleasure of reading a paper before this conference two years ago, and again of taking part in the discussion on the same question one year ago.

There is still a great deal of controversy on the question of hernia. As has been stated this morning there is no difference of opinion among surgeons as to what constitutes a real traumatic hernia. In the acquired hernia as encountered in the industries, there is really no trauma involved. In my industrial experience of more than ten years, I have not yet seen a real traumatic hernia. Every day we see hernias, sometimes a dozen a day; we operate on hernias every week, but all are acquired, none are traumatic that we have yet encountered.

Few hernias arise in the manner set forth in the five points that have just been read. Sudden, violent pain, necessitating that the patient cease work, is more liable to occur in an aggravation of an old hernia. Patients with hernia usually lose no time from work while their hernias are developing.

While a hernia may appear to its possessor to have been traumatic in origin, the findings at operation show the preformed sac, with no tears in the peritoneum nor other structures, no hemorrhages nor indication of any trauma whatever. A case of hernia I operated on this week had existed fourteen years. The patient insisted that the hernia arose in consequence of his lifting a dinkey car on the track. At operation a congenital type of hernial sac, scrotal in extent, afforded evidence that no trauma was ever involved. Popular opinion, and legal traditions, foster the idea that lifting, pushing and pulling cause hernia. These are merely a few of the exciting factors. The determining cause of the hernia is the preformed sac, occurring as a latent anatomical defect, or gradually arising, from the shoving out of the peritoneum.

Experiments on the cadaver abundantly prove that no finger is strong enough to shove out the peritoneum suddenly at the internal ring. The sac is preformed; it has existed as an embryonal defect or it arises slowly. The empty preformed sac is unobserved. The empty sac invites a tenant. With the filling of the preformed sac, the mass becomes apparent, the hernia is manifest. As the sac really constitutes the hernia, the patient has an undiscovered hernia before the sac fills, hence, before the mass appears.

In my opinion the arbiter in hernia cases should be the operating surgeon; the findings at operation constitute the essential data as to what is a pathological hernia, and what is a genuine traumatic hernia. Attorneys quibble over attendant circumstances that are irrelevant and immaterial. The five points just read, belong essentially to the irrelevant and the immaterial. With pantomime and proper staging these five points can be simulated. But why put this premium on malingering?

In our opinion, compensation should be paid for traumatic hernia, not for pathological hernia. One cases in a thousand is entitled to compensation, 999 are not.

As stated before this conference a year ago, our company believes that industrial employees, who have acquired hernias, should be operated on at the company's expense, even though their hernias are of the pathological type. The employees disabled by hernias should be helped back into industry, and the employees' viewpoint should be acceeded to, to the extent of operating and hospital care, without expense to employees. It is not fair to industry, however, for the employer to pay, in addition, compensation for disability arising from acquired hernia, because acquired hernia is a disease just as hemorrhoids and varicocele are diseases.

Whether a hernia comes down suddenly or not is immaterial. The preformed sac is a pathological entity. If the operating surgeon, in reporting his findings, discovers that the hernia had a preformed sac, it is then a pathological hernia.

I was much interested in the valuable paper read, and trust everyone will take part in the open discussion.

Dr. Patterson: Dr. Trask, will you tell us what you do with hernia cases occurring among those over whom the Federal Compensation Commission has jurisdiction?

Dr. John W. Trask, Medical Director, U. S. Employees' Compensation Commission; Surgeon, U. S. Public Health Service, Washington, D. C.: The United States Employees' Compensation Commission has a little different problem from that which is presented under the various state compensation laws. In most of the states the cost of operation, that is the compensation and the expense of surgical treatment, is borne by the employers.

The United States Compensation Law makes the whole people of the United States stand the cost of awards under the Act. The United States Employees' Compensation Commission makes awards in cases of an aggravation of an existing condition, if that aggravation is due to the nature or condition of the work of the employee. For this reason the commission does not have to consider or distinguish between many of the points of practice that have been discussed here this morning. It assumes (and it is a fair assumption and in accord with the very pertinent and well-phrased remarks of your chairman) that hernia, as we ordinarily see it, develops only in cases that have what may be termed a congenital defect; and that the hernia, therefore, is merely an aggravation of the condition, the aggravation being, as I think you will all agree, at times, in fact quite often, due to some particular stress or strain incurred in the course of the man's work. In such cases the commission considers the case compensable, and gives compensation, surgical operation and medical treatment when indicated. The commission also will grant compensation in a case of gangrene in which an employee with diabetes has injured his foot, and as a result thereof develops gangrene of the foot which may even extend to the leg and perhaps necessitate amputation. The loss of the leg is due only in part to the foot injury. It is due in part to the man's condition, the existing diabetes. The foot injury merely starts the chain of events. The commission grants compensation in such a case, because it considers that if you employ men, you take them as they are, and that no man is perfect physically. The commission recognizes that no man is truly what is considered normal; that is, entirely sound or physically perfect. Every man has some defect. Every employee has some defect. You employ the men with the defects; and even if these defects are a factor in producing the disability, the commission grants the award. It can do this in a way and to an extent that under state laws would be difficult; because, while the whole community can bear the expense of an individual injury, it is probably not proper to assess that expense on an individual industry. It occurs to me that these hernia cases, being borderline cases, in a sense debatable cases, might not properly be charged to the individual industry, but should be a charge on the whole community. The basic idea of workman's compensation is to remove from the shoulders of the workman the hazards and unusual expenses of trauma and other conditions that he may sustain because of the nature or conditions of his employment. If the average employee sustains an injury, it is a distinct hardship to him and his family. He cannot well stand the cost of that injury. Industry being a product of and a thing necessary to the community, it seems logical that the community should stand the unusual expense of such injuries.

Dr. Patterson: The subject is before us for general discussion. It is of vital importance to every industrial physician and to all employees, and I sincerely hope that we shall have a free expression of opinion from everyone.

Dr. F. G. Mohlau, National Aniline and Chemical Company, Buffalo, N. Y.: I should like to ask whether you have noticed that it is a fact that in 90 per cent. of the cases of hernia observed in industrial work, especially among Italians and Slavs, the individual wears a belt instead of suspenders to hold up his trousers. The wearing of the belt even under normal conditions seems to create a tendency to weaken the lower wall of the abdominal structure.

Where there is a hernia already existing it aids to push down omentum through a large ring and it seems to me that the effect is apparent, especially in pick and shovel men.

The discarding of a belt I have found to arrest the rapid enlargement of an existing hernia.

Dr. P. A. Bendixen, Davenport, Iowa: The subject of hernia has been of extreme interest to me during the past ten years. I have been going over the literature during this period, and I think that I knew as much in the beginning as I do now. The fighting point on traumatic hernia has been as to the real underlying cause of the hernia, whether a weakened sac or an increased intra-abdominal pressure. I find that von Bergmann reports only one case of true traumatic hernia. Goldner reports only two cases. By the term, "true traumatic hernia," is meant such cases as those in which an individual received an injury from the thrust of a bull's horn or a kick from a horse, or from a stab wound, in which the bowels protrude from the peritoneum. In other words, a rent in the peritoneum, this is a true traumatic hernia. Now, under the compensation laws the term true traumatic hernia, I believe, is misapplied. I believe that if the term accidental, or industrial hernia, were applied to such a hernia, the misuse of the term traumatic would become obsolete or fade away. I do not see why an employer should pay for the physical defects of an individual, when the hernia is congenital, due to a syphilitic, tubercular or other diseased condition. I do not know what the policies are in this state in reference to the examination of industrial employees; but in the state of Iowa we do not examine our employees at time of employment. I believe that every man who seeks employment should have a thorough physical examination; and if, at such an examination, a physical defect is found (a large ring or slight bulging), a careful notation should be made on that man's admittance chart or history sheet. I do not believe that any hernia should be considered as industrial hernia, eliminating the term traumatic, with the exception of the true traumatic hernia. I do not believe that any employer should be held responsible for an anatomical malformation in an employee, or be asked to pay compensation for such a condition. I believe that the chairman is right in recommending the points to be considered, but I do not like the term traumatic.

Dr. Charles M. Harpster, Henry L. Doherty & Co., Toledo Railways and Light Co., Toledo, Ohio: I should like to see this association, if of that opinion, go on record that traumatic hernia is of very rare occurrence. If we have that point settled, we have gained some advantage in the settlement of the problem. I think that it is just as logical for a man to collect compensation for internal or external hemorrhoids that happen to protrude when he lifts or strains in lifting something as to collect for these hernias. I have seen many thousands of industrial accident cases, and have assisted at many thousands of physical examinations; and I have seen only one case of true traumatic hernia, so-called. I like the term applied by our friend from Iowa, industrial hernia. I would almost say that traumatic hernia does not exist, but for the one exception in my experience. This man's case was a famous case in our state. The Industrial Compensation Law had just gone into effect. He was caught between a box car and the side of a building and violently squeezed, so that the bowels protruded between the torn muscles and fasciae. He brought suit against the company for whom he worked and against the Industrial Commission, and eventually collected damages, and that is the only case that I have seen that I could call true traumatic hernia. I think that the chairman is right in the premises, but I do not believe that the solution of the problem suggested by him will solve the question.

Dr. Joseph D. Findley, Pennsylvania Railroad Company, Altoona: I should like to suggest that this should read "hernia following strain is not compensable." I think that this would simplify the matter and I should like to hear some discussion on this point.

Dr. H. P. Hourigan, The Larkin Company, Buffalo, N. Y.: I want to add my experience to the general observation. If a man in our plant develops a hernia, he is assured of relief regardless of the cause. We relieve the hernia along the lines that he thinks best, after advising with us. That is, we give him a truss or perform an operation, and assume part or all expense of hospital and operation, depending on conditions. We give him a length of time off, and give him the wages agreed on between us.

We make an examination of everyone before he is put to work. That has been going on for years, and we have never had anyone claim his hernia was due to trauma. It is not necessary for a person with hernia to make such a claim in order to get the relief or treatment from our company. I think that is the point. If it is necessary to prove traumatism in order to get relief, they start to prove traumatism; but when that is not necessary, as in our case, no one makes an attempt to show that the industry is responsible for the hernia.

The nearest the hernia is blamed on the industry is the expression of the individual that he feels it came on at some time during the course of his work, but he will not stand positively on that statemtnt.

Dr. Spencer M. Free, Pennsylvania Railroad Company, DuBois: I think that we shall not get anywhere if we continue in this way. We are having a very interesting discussion. All of us have seen lots of cases and paid for them. I move the adoption of the resolution of the chairman. (The motion was seconded.)

Dr. Patterson: It has been moved and seconded that it is the sense of this body that we recommend to the legislatures of the various states the adoption of an amendment to the Compensation Law for the purpose of taking care of these cases of hernia. All in favor will say "aye;" contrary minded, "no." It is carried.

Dr. Lauffer: May I make a suggestion? I think that what the operating surgeon has to say, regarding these cases, when they are operated on, should be taken into consideration in granting the award.

Dr. Patterson: All in favor of Dr. Lauffer's amendment say "aye"; all against, "no." Dr. Lauffer's amendment is that there shall be included in this description of traumatic or industrial hernia a statement that the opinion of the operating surgeon shall be taken in the case.

Dr. Hourigan: I did not understand that to be the point.

Dr. Lauffer: In the settlement of cases, at present, the points taken into consideration are the attendant circumstances when the man developed the hernia. My contention is that the findings at operation should receive consideration from the referee, or the industrial board, in arriving at a decision.

Dr. Patterson: Do they not give them any consideration now?

Dr. Lauffer: Very scant consideration. By your motion, you would merely make the attorney and the circumstantial evidence prominent in the case, and not introduce the surgeon and the findings at operation any more than at present. My belief is that the operating surgeon is most competent in giving testimony as to whether a hernia is pathological, or whether it is traumatic.

Dr. S. P. Mengel, Lehigh Valley Coal Company, Wilkes-Barre: That would make absolutely no difference to any board of compensation, because one man's testimony has just as much to do with the decision as that of another; and the testimony of the man who happens to be the family physician of the claimant has just as much weight as that of the surgeon. Another point is that, unfortunately, not all surgeons are honest. If they were, it would be right to assume that their opinion should be accepted. Not long ago, a surgeon operating on an old hydrocele testified that it was caused by an injury that occurred on the day before the man made up his mind to have the operation performed. The testimony was taken, and the company paid for the operation. The same thing occurs in the case of hernia; and no matter what resolution we adopt, the surgeon's evidence before any board or court is on a par with that of the family physician or dishonest practitioner, or any physician who may be called to testify.

Dr. Patterson: The idea in bringing this matter before you is to secure an interpretation of hernia by compensation boards which will be fair to employee and employer, and I feel that the more we can reduce it to symptoms, rather than testimony of individual surgeons, the better off we shall be. What is your feeling, gentlemen? Should we present this amendment as I have read it, or should it be further amended?

Dr. Mengel: I would offer an amendment to Dr. Lauffer's amendment, that the subject be left in the hands of a committee of three, to be appointed by the chairman, with power to act. (The amendment was seconded and carried.)

Dr. Patterson: The committee will be appointed later.

Dr. John H. Siegel, Donk Brothers Coal and Coke Company, Collinsville, Ill.: I wish to make another amendment: that a copy of the resolution be sent to every state that has a compensation act. (The amendment was seconded and carried.)

Dr. Patterson: It will probably interest you to know that a definition of hernia is now in process of passage through the New Jersey Legislature as an amendment to their present compensation law and within the next ten days will in all probability be a law.

Passing to the next subject: Our state is one of the greatest in the land, with nine millions of people within its borders and practically four millions in industrial pursuits. The thousand and one products of Pennsylvania's industries have been a material factor not only in the well-being of the people of the United States, but also in our ability to win the war. I am sure that you will agree that the real index of the prosperity of a state should be the health of the people living therein. We have been fortunate, because we have as the new commissioner of health of our commonwealth a man who, by his experience and broad knowledge, will bring to the many problems before him a vast experience and mature judgment. The industrial surgeon comes closely in contact with those who toil, and so knows their problems, and it will be our pleasure to hear from Colonel Edward Martin, our new commissioner of health, some remarks upon "How the Industrial Physicians and our State Department of Health Can Best Cooperate I take great pleasure in presenting to you Colonel Martin. I know that one and all of you will give him your hearty cooperation in the great task which lies before him.

HOW THE INDUSTRIAL PHYSICIAN AND OUR STATE DEPARTMENT OF HEALTH CAN BEST COOPERATE

EDWARD MARTIN, M.D.
Colonel, M. C., U. S. Army, Commissioner of Health,
Pennsylvania Department of Health
HARRISBURG

Perhaps there is no time in a man's life when he more ardently wishes himself elsewhere than when listening to the introduction of a kindly and imaginative chairman such as is Dr. Patterson. I have the honor, by election, to belong to this distinguished body; and the right, by practice, to be one of you, in that for the past half year I have been a surgeon to some fifty thousand men working in an open-air factory at Oglethorpe, the aim of this industry being to render innocuous a bandit breed.

The object of the industrial surgeon's work is to keep every man fit for his task. The military industrial surgeon is more carefully supervised than his civilian brother as to his results.

Every month he sends his records to the Surgeon-General, who selects a hypercritical man for an immediate analysis of methods and results. If he has too much sickness, too many in quarters and hospital, he hears of it, not always in polite terms. He is judged by his results. It is this element in industrial surgery which insures the ultimate complete competence. When in printed literature we read a report from, we will say, Dr. Smith, that he has operated on three thousand five hundred and twenty-five cases of acute appendicitis without a death, we remark, if we feel kindly towards him, "Smith had a slight personal bias that sometimes obtains when a man reports his own results." If we feel unkindly disposed, we use a thoroughly satisfactory Anglo-Saxon term and say, "Smith is a liar." The results of the army surgeon's work are tabulated and studied by an officer detailed for this purpose, and the individual is judged by this study. Such a scheme universally applied means great things for our people and greater things for us. It means that no man can stay in this organization, can be an industrial surgeon, who does not render the highest type of service; that he himself is not going to be the judge, but an unsympathetic person appointed for this purpose. It means that this body is going to have as its members the real surgeons of the United States. The man who saves life, who gets men back to the firing line, who gets them back into productive occupation, he is the industrial surgeon, and will be justly placed in accordance with his real merit.

What have we learned and what have we delivered? Many things. For instance out of the many thousand men at Camp Oglethorpe, and the many hundred cases of appendicitis, and in all the hurry of a changing personnel as the trained men were replaced by new ones, with all that swift work, in not more than six cases was the diagnosis of appendicitis and the immediate operation postponed for more than some reasonable hours. In those months of service I saw only two cases of those hand phlegmons practically always the outcome of postponed or inadequate surgery which sometimes mean loss of the arm, and sometimes loss of life. Why this fine record for the military industrial surgeon? Has the civilian doctor attained like results? We do not have to ask you. Go to any civil hospital or dispensary in this, or any other city, and you will see many of those infected hands coming in. The industrial surgeon who habitually has in his factory a dozen cases of palmar abscess leading to compensation, is he going to be one of us? The unsympathetic board of managers will see to him.

It is not only the earnest desire to help the working man that is needed, but it requires training. It requires schools; and how shall you men who have acquired that knowledge and swift dexterity, how shall you pass it on? By lectures or by clinics? No. A lecture is the poorest form of teaching. A clinic largely benefits but few at best. There is only one way rapidly to make industrial surgeons of the new generation, and that we employed this summer.

We had, this last year, to train surgeons for the industry of war, to train them swiftly, to train them in fundamentals. What are the fundamentals in our art? First, that the human blood in its vessels is the most powerful antiseptic that we have for overcoming any infection; and that, given a fair show, it will resist anything and accomplish rapid repair. Secondly, that human blood out of its vessels is accursed, that it favors the spread of infection. Starting on that proposition, it comes down to the care of the devitalized tissue in a wound. The dead does not come to life; and if you leave the dead even with minimum infection there will be no regeneration but an assured and continuing infection. The surgeon has now and always has had as his greatest asset a knife, by means of which all dead tissue can be removed leaving living tissue abundantly supplied with blood moving. If two well-vascularized surfaces are brought in apposition without devitalizing tension or pressure they will unite whether infection be present or not, more surely and quickly in the absence of infection. Hence, given the industrial surgeon who understands and applies the principle, i. e., apposition of vascular surfaces leaving no dead spaces, no blood out of its vessels, and giving the parts rest, the question as to the choice of an antiseptic becomes of minor import, though the war surgery has apparently shown that one of the chlorin group is the least harmful and most helpful.

For instance, how many of you have dealt with burns incident to electrical work? There is left a limited dead area, often deep. How long does it take to throw off the resulting slough? Always weeks, and sometimes months. The knife attains the same end in minutes, all tissue deprived of its blood supply being removed; the vascular walls of the resulting wound are brought in apposition without interfering with their circulation, and if kept at rest heal at once.

In the matter of dressing, paraffin has proven of inestimable service, mainly because it protects, and if needful drains, without traumatizing. In the form of paraffined gauze mesh, it has its widest use.

As industrial surgeons, the question of an anesthetic is a major one. It has been abundantly shown that local anesthesia is efficient for practically all minor and most major operations, that it is the safest, most economical method, that following it there are no after-effects. The local tissue reaction does not retard healing. Those who do not succeed with it have not taken the time or made the patient trial needful. It requires both and when learned amply repays for both.

We had in camp the problem of training industrial war surgeons and doing it quickly. In our hospital the young men themselves did the work. They had, standing over and watching them, men of larger experience who knew, and wanted to teach them what they knew. After an operation the whole procedure was gone over and discussed from the standpoint of constructive criticism. They were all required, in formal operations, to practice instrumental technic. As a result during the last month we returned a record, checked up by an unkind man in the central office, to the effect that eight young men performed several hundred operations without a single infection. You big men, with your big plants, train your juniors in this way if you want quick and sure results. It is worth your time to stand over them and bring the technic of surgery up to its highest standard. How shall we help? I am an industrial physician now. My job is to get you men to keep your men on the firing line. We have to play the team game, if we are to play together. You, by your surgery, by making it a school of surgery such as the Mayos have indicated, have power to spread over this country a great school of surgery.

Then, by carefully watching in other respects the health of the people over whom you have jurisdiction, and for whom you are responsible, you have it in your power to raise greatly the standard of efficiency among your workmen. That means work. It means good water. It is not beyond the dignity and importance of the surgeon to know whether or not the ten thousand employees in his charge are supplied with wholesome water. If it is not wholesome the Health Department of this state stands ready to insist that it shall be made so. Because of the coming generation the milk supply must be free from pathogenic bacteria and this in the light of our present knowledge implies supervised pasteurization. A part of your energies must be directed against flies. Every time you have a curse of flies, it means feces, and flies carrying them to the food. It has been shown that flies can be eliminated; and that the presence of flies is an absolute proof of inexcusable filth.

It means cooperation in every direction for the good of the workers, because they are the real people—those workers of Pennsylvania. The people who ride in automobiles and do little else, unless they are givers, are of little service to the state. It is a question of both national and local health to prevent the spread of venereal diseases. It is your task, my colleagues, your task. Are we to waste and throw aside the lesson of this last military industry, so happily completed by us? No, and you are the factors that make the utilizing of all we have learned possible. The venereal problem will be taken up in some detail this afternoon, and I hope that Dr. Pierce, or his substitute, will give us a sure way to eradicate this curse.

Dr. Patterson: I am quite sure that Dr. Martin would consider it a privilege if the industrial surgeons of Pennsylvania or other states would now point out to him how the Department of Health can be made more efficient in the conservation of the lives of the inhabitants of this commonwealth. It is a very important subject. In the last analysis, it is to a great extent, up to the industrial surgeon; and I am sure that Dr. Martin will welcome a discussion of this very important problem, which is now before you for consideration.

It is our pleasure to have a few words from a man who needs no introduction to this body, our good friend, Dr. Frederick L. Hoffman, third vice-president and statistician, Prudential Insurance Company of America, Newark, N. J.

DISCUSSION

Dr. Frederick L. Hoffman, Newark, N. J.: It seems to me appropriate that someone on this occasion should say a few words relative to the very able and inspiring address by Colonel Martin. I would rather, of course, that someone representative of this commonwealth should have said what I am about to say as a citizen of an adjoining state.

Colonel Martin's address visualized to me the future of the public health movement. He made it clear to us that the industrial physician is a new force in the medical world, the importance of which at this moment no one can measure or foresee, but which is bound to have a strong reaction, but for the good of the state, upon medicine at large. Industry is the most important factor in the world because an ever-increasing number of people are deriving a living from industrial processes. Industry has therefore become of paramount concern from the Government to the least individual concerned in the public good. The medical control and supervision of industry is, therefore, not only of importance, but, under given conditions, a matter of supreme concern to the managers of industrial plants. The training of industrial physicians and their proper development for new tasks and new duties is equally important in the future development of society and the state. The functions of industrial physicians are quite unlike those of one who practices medicine as a healing art in other fields. Much more of the work is in the nature of prevention, and it is self-evident that the industrial physician must be trained along totally different lines. Those with experience in medical examinations for insurance know that most of the examiners have not been trained as they should have been.

It is easy, of course, to make examinations, but difficult indeed to make examinations that are really worth while. There is a vast difference between medical examinations for industrial purposes and the examinations of persons for the purpose of physical or clinical diagnosis. In full appreciation of the practical importance of the conclusions involved in this observation, the Committee on Race in Relation to Disease (Civilian Records), of the National Research Council, gave extended attention to the details of a standard blank for examination purposes. The blank has been reprinted as Appendix A to my address on "A Plan for a More Effective Federal and State Health Administration." The blank may seem rather elaborate upon first consideration, but it is in fact quite simple and the time involved in making the examinations is less than the time usually consumed. It is all a question of using the proper blank if practical results are to be secured. If the individual is to be judged by standards derived from collective averages it is of the utmost importance that such standards shall be correct and not misleading. No standards, however, can be worked out until a sufficiently large number of unit measurements have been made and subjected to critical analysis. Since every physical characteristic depends more or less on the racial antecedents of the person examined it is absolutely necessary that the racial facts shall be taken into account. Mere averages derived from numbers, however large, are not likely to meet proper requirements, most of all when the results are applied to particular purposes. Thus, for illustration, the new child labor law of West Virginia requires determination of the "physical age" of the child; as a matter of fact no standard exists by means of which it is proper to determine the physical age of the child within a given time. If the racial antecedents of the child are ignored in such an examination serious injustice may be done in exceptional and possibly rare cases.

As Colonel Martin observed, you are representatives of a new branch of medicine, which has certainly attained to very considerable practical importance. All of you, therefore, agree with me that your proper education is a matter which should receive much more serious concern on the part of medical schools than has heretofore been the case. The commonwealth of Pennsylvania has spent vast sums of money upon public health, possibly more *per capita* than any other state. The new commissioner is happily one who brings great experience, unusual ability, and exceptional vigor to the work that lies before him. The new public health is essentially different from the old. It will not be satisfied with locking the stable door after the horse has been stolen. The true conception of the duty of the state to prevent disease goes further than even the most drastic quarantine measures after serious outbreaks have occurred. A successful health department will really prevent initial outbreaks of disease and not rest content with suppression of large outbreaks after a vast amount of loss has been sustained. The experience which has been had with the recent nation-wide outbreaks of infantile paralysis and influenza is suggestive of a new and more successful course than has heretofore been followed. The checking of epidemic diseases after outbreaks have assumed serious proportions is a measure of public control but not of true prevention. The time has passed for indulgence in a pretense of disease prevention which is not prevention in fact. The public is not concerned in the why or wherefore, but solely with the question that acute infectious diseases shall not, if possible, occur at all and certainly not in epidemic form.

There is reason to believe that not all the knowledge extant on the subject has been utilized to best advantage. You are to be congratulated on having a new commissioner of health who, by his ability and his remarkable experience in the army, will bring to the commonwealth a new force and energy which will unquestionably make Pennsylvania a leader among the states in public health and welfare. That is as it should be, for the people of no other state have been as liberal in appropriations and as willing to further public health movements as the people of Pennsylvania.

I thank you for this opportunity to give expression to my high personal regard for Colonel Martin, who, I am sure, will leave nothing undone to improve upon the work of his predecessor and give the commonwealth of Pennsylvania a new state health administration of which the state will have every reason to be proud.

Dr. Patterson: In line with Dr. Hoffman's thought, the subject of industrial medicine is rapidly coming into its own; because Harvard has just established a course in industrial medicine and surgery, the University of Pennsylvania has a course in these subjects, and today I learned that the manufacturers of Ohio have endowed the College of Medicine of the University of Cincinnati with a sum to have in that University a course for the industrial surgeons, so as to give them proper knowledge before starting on their work. .

If no one else has any remarks to make, we will pass on to the next subject, that of "Carbon Monoxid Poisoning; Its Prevention and Treatment." This is particularly important here in Pittsburgh, because we lately had an accident here, which cost the lives of twenty-five men in a steel plant, caused by a failure to block off properly the connections of a blast furnace that was under repair. It will be our privilege to hear Colonel A. J. Lanza of the United States Public Health Service, Washington, D. C., on the subject, and I take pleasure in introducing Colonel Lanza.

CARBON MONOXID POISONING PREVENTION AND TREATMENT

A. J. LANZA, M.D.

Senior Surgeon, United States Public Health Service; Chief, Division of Industrial Hygiene and Medicine, Working Conditions Service, United States Department of Labor

WASHINGTON, D. C.

There is no subject included under the general scope of industrial poisoning or occupational illness more interesting or of greater practical importance than carbon monoxid poisoning. Not only is exposure to this gas prevalent in a great many industries, but it is intimately associated with heating and illumination in the home. Kober and Hanson mention 34 industries where CO poisoning may occur, and Dr. Albaugh states that there are at least 30 such industries in the state of Ohio alone. Besides being recognized as a definite hazard of various processes in many industries, we are constantly coming across cases of CO poisoning that occur under the most strange and unexpected circumstances. Indeed so unusual are the circumstances of CO poisoning at times that its nature may not be recognized until a succession of fatalities reveals the true cause. It is a fruitful cause of death, from the individual who is overcome while tinkering with his automobile in a small garage, to the wholesale slaughter that occurs in mine fires or explosions.

The prevention of CO poisoning depends on a proper recognition of the possible sources of the gas and the taking of precautions to prevent those necessarily exposed to it from being overcome. Caused chiefly by incomplete combustion of carbonaceous material it is impossible to prevent the formation of this gas under a multitude of different conditions. Where there is reason to believe that carbon monoxid is being liberated into the air of a working place with more or less regularity, due to the nature of the process involved, the air of such place should be sampled and analyzed from time to time. It being established that there is a carbon monoxid content to the air, every effort should be made to remove it. Leaks in mains, conduits or pipes, or other carelessness on the part of the management or of employees may be responsible, in which case the remedy is evident. In other places or processes it may be possible to remove the gas by proper hooding or exhausts, or when such form of removal is impractical there should be free and open ventilation, with every facility for exchange of inside and outside air.

There will of necessity be many occasions where carbon monoxid cannot be prevented from polluting the air where men may work, even if only temporarily, and where also the gas cannot be readily removed. The nature and location of the work will determine the course to be followed, but in any event carbon monoxid cannot be treated with too much respect. It may be accepted that where CO is known to be present or suspected of being so, no man should be allowed to go unattended or unwatched, even when wearing oxygen apparatus. When it becomes necessary, as in times of emergency or disaster for men to penetrate an atmosphere containing CO, not less than 6 or 7 men should be allowed to go in a party, even when equipped with oxygen apparatus. Under many occasions the prevention of CO poisoning will depend on the intelligence and watchfulness of the individual. The person engaged in regulating his motor car, the workman in fire or boiler rooms, the man working around blast furnaces and by-product coke ovens, the miner and many others should always remember the insidious and dangerous character of the gas to which they are exposed. The prevention of CO poisoning lies, then, largely within the domain of "safety first."

Relative to continued exposure to CO, the effects of which are discussed later, men should not be allowed to work steadily in an atmosphere which contains even minute quantities of the gas. If the gas cannot be removed, the men should be moved from time to time.

The treatment of carbon monoxid poisoning is a matter of some dispute. The actual effect of CO gas is the subject of controversy and the status of chronic CO poisoning is not clear. In 1916 Professor Yandell Henderson, holding the chair of physiology at Yale and acting on the U. S. Bureau of Mines committee on resuscitation from mine gases, as a result of certain experiments and experiences made announcements relative to the action of CO that were at variance with previously accepted theories. Briefly, Doctor Henderson concluded:

> "Carbon monoxid is physiologically harmless except in its affinity of hemoglobin. Its toxic effects are wholly due to the inability of the blood combined with CO to carry oxygen to the tissues.
>
> "That CO does not form a permanent compound with hemoglobin, but is rapidly separated from it in the presence of pure air or oxygen.
>
> "The continuance of coma or after effects of CO are not due to the retention of gas but to the results of injury to the tissues due to the insufficiency of oxygen while the gas was being inhaled.
>
> "Therefore," Doctor Henderson concluded further, "in CO poisoning neither transfusion nor bleeding is

beneficial, oxygen inhalation is of value for a brief period only, say half an hour, and exposure to fresh air and symptomatic treatment are all that are really required."

Previous to this announcement, it was generally accepted that the combination of CO with hemoglobin was a permanent one or at least of a very tenacious nature. Personally, as far as our experience goes, I am inclined to agree with Dr. Henderson's conclusions. While associated with the U. S. Bureau of Mines in work relating to mine hygiene, it was the custom, whenever possible, to take samples of blood from persons overcome by mine gases, especially if engaged in rescue work and wearing oxygen apparatus. In a series of fatal cases we found discrepancies in the CO content of the blood, and never in sufficient concentration to produce death. On going into the matter further we found that the method of taking the sample had much to do with the accuracy of the analysis. At first we drew the blood into a syringe, squirted it into a small bottle, sealed it and sent it to the laboratory.

We found that the aeration of the blood during its transfer from the syringe to the bottle materially lessened its CO content, and that if we did not fill the bottle full, the air remaining between the blood and the stopper displaced CO. In all handling of the sample therefore we had to avoid exposure to the air, which would seem to be in accord with Dr. Henderson's conclusions.

As to the toxic effect of the gas itself, and relative chronic CO poisoning there does not seem to be accurate scientific information. Unless CO has a toxic action we would hardly expect to get chronic poisoning, as the mere lessening of the oxygen content of the blood to a minute extent for brief periods of time would hardly do any damage. The general opinion of physicians to whom I have talked and who come into contact with CO cases is that the gas is toxic and that there is such a thing as chronic CO poisoning although they think men may acquire a tolerance for the gas. In our own experience I have not been able to separate the effects of exposure to CO from other factors of the occupation that might affect the health.

While engaged in cooperative work with the U. S. Bureau of Mines we studied a group of men who were daily exposed to CO underground and who were often knocked out for brief periods. At no time did we ever find any evidence of CO in their blood, although it was sampled immediately when they came out of the mine. Their general health was impaired, but their work was very arduous, hot, and dangerous, and would sometimes last 24 hours or longer on a stretch, so that we cannot ascribe their condition entirely to CO. On the other hand it is probable that our methods of analyzing the blood were not sufficiently delicate to reveal minute traces of CO. The war prevented this work from being concluded. However, it is not justifiable in the present state of our knowledge to allow men to be steadily exposed to CO, even in minute quantities.

In conclusion, I would like to state that the subject of carbon monoxid poisoning is one which industrial physicians whose patients are exposed to this gas should study carefully in the light of their own experience, and their findings should be reported. Furthermore, whenever men are overcome, or suffer from attacks of dizziness, weakness and prostration, without an adequate reason being at once apparent, the possibility of CO poisoning should be borne in mind.

Dr. Patterson: The subject is now before us for general discussion. It ought to interest every physician in the steel mills, because we have had a large toll of life as the result of the operation of the blast furnaces. Every man must have ideas on the subject, not only of prevention, but also of treatment of the poisoning.

DISCUSSION

Dr. S. Dana Hubbard, Superintendent, Division of Industrial Hygiene, Department of Health, New York City: We are interested in this subject in New York City because we have had quite a number of deaths from carbon monoxid poisoning, particularly in garages where motor trucks are kept. We have on record quite a large number of cases of men overcome claiming such as the result of accident, who apply later for insurance. Many who are removed from garages have been overcome due to trucks with their engines running being permitted to vitiate the atmosphere of a garage. Several accidental deaths have occurred in this way: In one instance a man, going to his private garage, started the engine to test the motor with doors and windows closed; his wife missing him, sought him and found him dead, lying beside the car with the engine running. The exhaust gases had vitiated the unventilated atmosphere of the garage and caused death. There are, in the city of New York, a large number of garages, each running with a permit, and there is no regulation about the windows and doors, and there are no caution signs against testing motors in closed garages. I should like to see this association of industrial physicians go on record with regard to this particular part of the work.

Colonel Edward Martin: As long as this is an executive body, I suggest the appointment of a small committee to frame a resolution to be submitted to the health authorities regarding the proper construction and ventilation of garages; a committee of three. (The motion was seconded.)

Dr. Patterson: It has been moved and seconded that a committee of three be appointed to formulate regulations to be submitted to the health authorities on the subject of poisoning by carbon monoxid. All in favor of this motion will say "aye"; those opposed, "no." It is a vote. The chair will appoint this committee after luncheon.

Mr. John Roach, Chief of the Bureau of Hygiene and Sanitation, Department of Labor, Trenton, N. J.: I think we all understand the danger to life from carbon monoxid poisoning. We have had several fatalities from this cause in Newark, N. J., during the past year. The danger is great enough to warrant us in attempting to establish standards of ventilation for garages that will not only advise of the danger to life from the inhalation of this gas, but that will enable an owner of a garage to establish safe conditions.

If we merely recommend in a general way that garages shall be ventilated in a suitable manner, we will not have gone far enough. It may be possible that an investigation of the subject will show the advisability of recommending that exhaust apparatus be installed to remove the gas or on the other hand a committee report might suggest a special type of structure that will admit of proper ventilation by natural means.

Dr. Patterson: We are to get up standards of ventilation that would apply to any industry—for garages, industries with blast furnaces, and any others in which the production of carbon monoxid is caused? The idea would be to get a code of safety standards to submit to the labor or health departments?

Mr. Roach: In the case of a garage, there is a special risk. Many garages are improperly ventilated. They are constructed of sheet iron, brick or tile, and no provision made for removing the poisoned air.

Dr. Patterson: Would that not be taken care of if we had a proper warning sign sent out by the labor or health departments to garages all over the country, advising them of the danger of carbon monoxid poisoning?

Mr. Roach: My experience has been that people generally understand that the gas is poisonous, but what they want to know is how to handle it with safety. I suppose that if the accident records were complete in this country, we would find that hundreds of deaths have occurred in garages from this poisoning. Most state departments of health as well as departments of labor have no immediate jurisdiction over garages, and for this reason they merely recommend the posting of warning notices. In addition to warning notices I think a substantial group of rules should be provided covering the whole subject matter.

Dr. Patterson: In the cases where the labor department does not have jurisdiction would the health department have power to enforce regulations?

Colonel Martin: All these changes and regulations imply experience and trouble. In our own department, we have a Division of Housing, competent to carry out any rational suggestions. We want suggestions. We have people in Pennsylvania all keen after health, and it is a real responsibility on this body to formulate something worth while and something rational. We are mighty anxious for that formulation, and we will use it.

Dr. Patterson: The last subject on the program for the morning, is that of "Injuries to Back and Flat Feet." Dr. James O. Wallace, of the Children's Hospital and Mercy Hospital, Pittsburgh, will tell us many things of interest; and I hope that he will tell us when it is a sprained back, when it is a traumatic lumbago, and when it is a dislocation of the sacroiliac synchondrosis. I have sat in Harrisburg and worried what was the matter with me; and have also been in bed in the University Hospital equally worried. I have had a number of opinions. I think that Dr. Wallace can probably solve the problem for us all and I take pleasure in presenting Dr. Wallace.

INJURIES TO THE BACK AND FLAT FEET

JAMES O. WALLACE, M.D.
PITTSBURGH

The object of this communication is to lay before you observations of cases which present themselves to the orthopedic surgeon weeks and months after injury. Patients having had severe injuries such as crushes of the vertebrae and severe injuries of the soft structures, have been treated as having simple sprains of the back, and others have been considered as malingerers. A great many of the patients after having sustained injuries have been treated for rheumatism by doctors without the formality of an examination.

Injuries to the back may be broadly divided into four classes: (1) Contusions; (2) sprains; (3) fractures, (a) without cord involvement, (b) with cord involvement; (4) dislocations. Of these conditions I will bother you with only two, viz: sprains and fractures without cord involvement occurring in the lower back.

The human body maintains its upright position by means of a system of curves, which are the result of muscular action working against the force of gravity. We have a flexible weight-bearing column attached in unstable equilibrium to the pelvis through the sacroiliac joints. Nature always fits the part to do the work it is destined to do so we find in studying the muscles of the body that the posterior muscles are much superior to the anterior flexors of the body, the balance being maintained by the posture of the body and the weight of the abdominal and pelvic viscera. In other words, the body is balanced against an anterior load. I am limiting my discussion to the lower spine, which is composed of the last two dorsal and the five lumbar vertebrae. This region is more often injured on account of its very extensive motion and because it bears more weight than any other part of the spine. In the lumbar region, motion is more extensive on account of the relatively large portion of elastic intervertebral substances, because of the direction of the articulating surfaces, and because the spine is nearer the center of the body. This portion of the spine is the seat of more fractures because we have a freely movable portion passing into a fixed dorsal region above and the sacrum below.

THE LUMBOSACRAL REGION

The sacroiliac joints situated as they are at the end of the spine on the one hand, and connecting the spine with the pelvis on the other hand, are subject to tremendous strain at all times, and it is not surprising that they are commonly subject to sprains, being so intimately connected with one another that to all intents and purposes the symptoms may be discussed together.

The lumbosacral joint consists of the movable fifth lumbar vertebra, working upon a fixed base of the sacrum. The physiologic inclination of the pelvis (50 to 60 degrees) places this joint at a great disadvantage, and whenever abnormal posture is maintained, the weight and leverage at this joint subject the ligamentous attachment to tremendous strain. Besides the fifth lumbar vertebra is subject to more anomalies than any other part of the spine. In 50 consecutive cases, Adams reports forty-four cases which show bony defects in the sacrum or fourth and fifth lumbar vertebrae. Seven of these show anomaly in the fifth lumbar inferior articulating process and two others showed an enlargement of the transverse process.

THE SACROILIAC JOINTS

Recent investigations showed that the sacroiliac joint possesses all the histological structures of a true joint. It possesses a certain amount of motion which has been accurately measured in the laboratory, and by the obstetrician in practice, as demonstrated by the Walcher position. The sacroiliac joint has an ear-shaped articulating surface of irregular contour, is almost vertical in position, contains hyaline cartilage and synovial membrane and its surfaces are bound together by anterior and posterior sacroiliac ligaments which are ligaments of the strongest variety, the posterior being the stronger of the two. In front of the sacroiliac joint lies the lumbosacral cord and sacral plexus, which gives off branches to the pelvic organs and lower extremities. The sacrum moves either forward or backward through the third sacral segment. It plays an important role in hyperflexion and hyperextension of the trunk upon the pelvis. In considering the functions of the sacroiliac joints it is well to look into the muscles which control this function. The posterior musculature, which has to do with this motion, may be divided into (a) an upper and (b) a lower group: The first consists of the erector spinae with its tendinous attachments into the sacrum below; the second, the glutei and hamstrings, which are attached to the ilium and tuberosity of the ischium. The principal function of the lower group, when acting from a fixed point below, is maintaining the balance of the pelvis upon the head of the femur and in further contraction producing hyperextension of the trunk.

Baer classifies sacroiliac strains into two classes: Class A, in which the superior border of the sacrum travels posteriorly, producing the flat back type; Class B, in which the superior border of the sacrum tilts forward, producing the hollow back type. These types are distinct and show an entirely different symptom-complex and correspond very closely to the traumatic and static types of other men. Other men classify the lesion of the sacroiliac joint: (1) Traumatic, subdivided into acute and chronic; (2) static; (3) toxic. Longnecker, discussing this classification, says it is impossible to isolate a type as belonging to only one group; for a traumatized joint may later become the seat of an inflammatory process. An abnormal bone formation itself often causes a lateral curvature, and relaxed ligaments have produced a defective balance of the whole body.

ETIOLOGY

1. The traumatic or flat back variety may be divided into acute types in which the trauma is recent and primary.

2. The chronic variety is that type in which the trauma is recurrent and of longer duration. This variety is generally the result of neglect and improper treatment, adhesions forming and muscles contracting from such neglect, holding the patient in improper position. The trauma may be the result of (1) a direct blow, as being struck across the back by heavy timber and the body falling against protruding objects; (2) indirect muscle action, as in pushing heavy mine cars, the foot slipping, in lifting heavy barrels from a wagon, the weight being too heavy, or the fellow workman allowing all the weight to come against his fellow. In this action you have a flexed and rotating spine, working on a fixed pelvis. You get the same action in trying to lift or roll a heavy object off the ground. This extra weight puts more strain on the muscles

and ligaments than their physiologic action will allow and results in a twisting, wrenching or tear of their insertions. In women the most common cause is strain in prolonged childbirth, instrumentation and after prolonged anesthesia in gynecological positions without support to the lumbar spine. Congenital malformation of the sacrum and fifth lumbar vertebra causes strain in this region and a long transverse process of the fifth lumbar produces strain.

Indirect traumatism is the cause of the majority of the strains of the sacroiliac joint and men are more subject to this cause than are women.

In the static or hollow back group we have any causes which will produce a loss of muscle tone, and consequent strain and relaxation of the ligament and joint capsule as typified in the visceroptotic type of Goldthwait, as (1) in young girls with poor musculature; (2) in disease of the nervous system, anterior poliomyelitis, the dystrophies, tabes; (3) in pendulous abdomens, whether due to excessive adiposity, intra-abdominal or pelvic tumors and displacements, further static conditions, such as unequal lengths of limbs, and joints of the extremities ankylosed in faulty positions.

In the toxic group, inflammatory symptoms predominate, constant irritation and strains of the joints leave a lower resistance and congestion upon which infection or toxemia may be implanted or we may have a direct extension of an inflammatory process from the pelvic organs. In the end result we have an osteo-arthritis which may be the result of tuberculosis, lues, typhoid, Neisser or other infections.

SYMPTOMATOLOGY

In the traumatic variety we have a history of a mild or severe strain, generally with the body in an awkward position. The pain may be simply an ache, occurring in the lower back or it may be so severe as to totally incapacitate the patient. The pain is so great at times that any motion causes pain, especially bending to the front or to the side. At times, a patient in turning around will lift his limb with his hands. Pain is usually indicated at the sacroiliac joint, over the center of the sacrum, or at the base of the ribs. It may be referred to the crest of the ilium, to the front of the pelvis and down the thigh even to the calf and the heel, according to the portion of the nerve involved. As a rule the pain in the beginning is not referred down the limb, especially in the mild types, but in an acute severe type, the pain may be referred from the very onset down the leg. Cofield in explaining pain of the sciatic nerve is inclined to think that it is the result of irritation of the sciatic nerve as it passes through the groove formed by the outer and inner hamstring muscles, these muscles being in a state of spasm cause an irritation of the nerve, and that it is not due to direct pressure or irritation at the site of the sacroiliac joint, because he says that the sciatic pain does not come on until afterward, but we have seen cases in which the pain did come on and was referred down the sciatic nerve immediately. In acute cases lesion is usually unilateral.

Examination shows some tenderness in the region of the sacroiliac joint. Baer has brought out a point which he calls the sacroiliac point. It is just below and to the side of the umbilicus. It is determined by deep pressure at this point which bears down right over the sacroiliac joint. By this means he determines which sacroiliac joint is involved. We have found by this method, pain in a great many cases. There is limitation in forward bending and side bending toward the affected joint. The pain is also complained of at the base of the ribs. This can be explained by the origin and insertion of the erector spinae muscle, pain at origin may be referred to insertion of the muscle. Kernig's sign is positive, producing either pain at the joint or at the insertion of the hamstring at the knee.

In the chronic type you are more apt to find the flat back and lateral deviation of the spine away from the lesion, if bilateral there is no deviation; contraction of the lumbar muscles; spasm of the muscles and the pain more often referred along the sciatic nerve. The pain as a rule is present at all times and is usually mild in character but subject to exacerbation at each new trauma. At times undue mobility may be elicited over sacroiliac joints, especially in very relaxed individuals and in examination with your hands over the sacroiliac joints having the patient flex and adduct the limb with the knee in flexed position, then bringing the limb out in abduction and down to the ground, very often you can feel slight movement in this joint. At times there is a sense of slight crepitation such as we feel in the knee joint which is the state of a hypertrophic arthritis. In very relaxed individuals, in this procedure, distinct clicks can be heard, whether they are in the sacroiliac joint or in the hip joint is sometimes hard to determine, but we have demonstrated this crepitation in the joints many times. Lovett makes sport of this sign and says he has never been able to elicit it. This crepitation which one feels is as though two joint surfaces were rubbing against one another and is probably due to movements of the synovial membrane, which may be the subject of calcareous infiltration.

RADIOGRAPHS

A radiogram usually helps in its negative findings in ruling out disease, although you occasionally get a lipping of the lower limits of the joints which is the result of a hypermobility. In two of the radiograms which I will show you a definite overlapping of the joint can be seen, the iliac portion of the joint being displaced upward about one fourth of an inch. Baer states that the roentgen ray in unilateral cases shows the spine deviated to the opposite side of the picture due to the list which the top of the sacrum has assumed as a result of strain, and in stereoptic pictures the bilateral cases may show the sacrum and ilium out of plumb. In a great majority of the cases, unless there has been trauma so severe as to cause a crush of the pelvis, the roentgen-ray findings are negative.

The static or hollow back variety onset is gradual. As a rule there is no history of trauma. You have a picture of round shoulders, hollow back and protruberant abdomen, seen generally in girls anywhere from four years of age to twenty. The pain is not described as acute but more of a backache, tiring easily after exertion. There may be slight tenderness over the sacroiliac joints. As a rule there is no deviation of the spine. The condition is usually bilateral. Another type of this static strain is the adult who has an excessively large, fat abdomen, or women with displaced organs and in which we have relaxed abdominal walls. Here the pain radiates from the back down around the front of the abdomen. It is due to the weight of the enlarged abdomen.

In the toxic groups the pain is usually gradual in appearance and is secondary to toxemia or inflammation in other parts of the body. The condition is aggravated by standing, sitting or walking. Any jar causes pain. Pain is usually present at all times but it is paroxysmal in character, referred over back, pelvis, hips and down the legs. There may be some disturbance of sensation. Posture does not relieve the pain. The pain at times is so severe that these patients usually resort to opiates. There is marked rigidity of the back and hip. The back is not as a rule flat but we have a bending back of the shoulders. If the case is unilateral there is a marked rigidity of all the muscles of the back and hip and you will have a bending of the spine to the side of the lesion. This is a directly opposite finding to that which we find in strain alone of the joint. In the bilateral cases the muscles of the entire back and both hips are rigid. There is marked tenderness, muscle spasm and no motion. Examination, as a rule, will show the tenderness just to the outer side of the erector spinae muscles. Roentgen ray shows as a rule some osteo-arthritis or other pathological process as a lipping of the vertebra.

TREATMENT

In the traumatic type, treatment depends on the severity of the case. In mild cases an adhesive strapping about 2½ inches wide, applied midway between the crests of the ilium and the trochanters, passing through the third sacral segment, is applied. Whether this dressing acts as an annular ligament to the glutei according to Lovett, or fixes the joint according to most other men, it relieves the symptoms as long as it is taut. One cannot be too careful in getting this dressing applied in just the right position. In the more severe cases, rest in bed with hips supported by means of a pillow under the loin and two pillows under the knees, with adhesive strapping in addition, will, as a rule, give results. In the chronic type with the flat back and contracted posterior muscles and adhesions, in addition to strapping, one may try a pelvic corset on men, or a straight front corset with back brace on women. This often relieves the strain and pain and is well worth trying.

In the more severe cases in which the simple measures have failed, manipulation is the method par excellence, because as in any other joint in the body where we have an inflammation, whether it is traumatic or inflammatory, the muscles go into spasm and protect the joint. As I have pointed out, the posterior muscles are much superior to their anterior antagonists. Hence, being in spasm for any great length of time they contract and hold the back in a hyperextended position. This constant strain on the muscles excites pain at their attachment to the periosteum, hence, by manipulating and stretching these contracted muscles, we not only relieve the strain from them but we also correct the flat back and bring it back into its correct posture. This manipulation is done with the patient on his back by means of flexion of the extended limb over the abdomen until the foot at times almost touches the chest. This manipulation must be done thoroughly until the muscles are absolutely relaxed. In this manipulation at times there is a definite click. According to Goldthwait, and others, this is caused by the reduction of the subluxated joint. According to Baer this click is produced by subluxation of the head of the femur. Other men say it is due to the giving of the hamstring tendons. At any rate when you hear this click you know that your work is done. The patient must be under thorough anesthesia or your work will not amount to anything. Afterwards the patient is put up in a long plaster spica from the nipple taking in one knee. Care must be used to keep the lumbar spine in its normal curve and at times adhesive strapping applied before the cast is applied is very beneficial. The cast must thoroughly hug the body. Some men use only the body cast, taking it well below the hips. It has been our practice to use a long spica and by this means we get our patients up on their feet in twenty-four to thirty-six hours and then get them home. They wear this cast anywhere from two to six weeks according to the severity of the symptoms and the urgent needs of the patient. After the cast is removed they are given proper support, men a corset with two bars which fit in well to the lumbar region. The corset helps to keep the proper posture and protects the patient from undue strain on the back. Gradually this corset is discarded for an hour a day until it is finally discarded entirely. Sometimes it is necessary to have the patient sleep in the corsets, especially in cases in which we have some toxic condition added to the traumatic strain.

In the majority of cases where there is no secondary process added to a traumatic joint, the manipulation and cast will absolutely relieve their symptoms and they make very grateful patients. In the static kind, relief of strain by means of corsets with front pads or brace, which take the strain off the muscles and put the patient in proper position, and measures to build up the general health and restoration of muscle tone will effect a cure. In this class, all causes which have worked to produce this condition must be looked into. Flat feet must be treated and unequal limbs must be leveled.

THE TOXIC GROUP

The toxic group are the most trying of all cases and the causes of most failures. Every source of infection must be sought after: Teeth which have never given any trouble; tonsils that have been removed must be invesigated; the alimentary, respiratory and genito-urinary tracts must be investigated or failure will result in spite of all local treatment. In one of my cases, a nurse complained of pain in back after lifting a heavy patient. Strapping relieved her temporarily and the corset and brace helped, but she did not get better and her general health grew worse. Her teeth had never bothered her and she had had her tonsils removed, but a slight infection of the throat led to her tonsils being examined and they were found to be the site of enclosed abscesses. Her teeth were examined and showed abscesses at the roots. After getting rid of these sources of infection the patient has made an uneventful recovery although the radiogram showed a slight osteoarthritis of the spine.

A detailed history of cases will not be given. The lantern slides of backs and roentgen rays will demonstrate the different varieties brought out in the course of this paper. The majority of the traumatic cases were the result of either lifting heavy objects, pushing mine cars and having the foot slip, or in cases in which the patients were subject to twists in awkward positions. In all these cases the patients described something giving way in their backs. At times they state it felt as though a knife had been plunged into the back and at times as though something slipped in the back.

A patient may sustain an injury to the back and be able to work for a day or two afterwards without paying any attention to it. Then some extra trauma will start up trouble. We have had some tear or strain of one of the ligaments or muscles over the lumbosacral or sacroiliac joint and we have the same sequences as anywhere else in the body. We have the extravasation of blood and serum into the tissues with a resulting formation of adhesions. We have the contracture and subsequent shortening of the posterior muscles and then the development of the flat back in which there is a change of the center of gravity, the posterior muscles do not act with their proper function and there is constant added strain to these joints.

GENERAL CONSIDERATIONS

The sacroiliac joint has been the subject of most bitter debate on the part of different groups of men. Some authors who have made investigations, anatomic studies and have examined hundreds of cases state there is a relaxation and subluxation of these joints. Other groups say from the nature of the joint there can be no luxation or relaxation. Painter of Boston in reporting a case of hypermobility of the sacroiliac joints following a symphysiotomy says the following:

> "The very nature and location of this particular articulation make it impossible to demonstrate such motion by the pursuit of those methods ordinarily applicable to a joint in which it is desirable to demonstrate mobility. As for dislocations of the sacro-iliac

joint they undoubtedly do not occur except where the violence is so great as to crush the pelvis. The slight dislocations which may occur and which are consistent with the structure of the sacro-iliac joint could not reasonably be expected to give rise to any outward evidence of their existence. A joint with a small range of motion would be capable of being displaced to a very slight degree. A deeply seated joint. such as the sacro-iliac, possessing only the slightest possible motion, shows practically no sign that could be interpreted to mean a luxation. Even the radiograph reveals nothing, for the reason that those indications which might be looked on as evidences of this are so slight that they are well within the limits of error in the taking of pictures and could not be fairly admitted as evidence. It is because so much question has been raised by those who are skeptical about the question of the sacro-iliac mobility that he reported his case he says, the chronic sprain of the sacro-iliac joints is not uncommon and it is in these cases the evidence of the effect of slight mobility of the articulation is clearly shown by the production of lipping at the periphery of this joint. One of the most striking pictures in the case has been the evidence of hypermobility at the sacro-iliac joint. This was associated with severe backache and gives ocular evidence of a hypermobility by the pronounced lipping of the sacro-iliac joints, as shown by the roentgen ray."

This, I think, is a very fair exposition of the subject of dislocation of sacroiliac joints. That the sacroiliac joint is subject to the same trauma and diseases as other joints in the body cannot be gainsaid. There is undoubtedly backward and forward motion in the joint and this motion is at times excessive, following sprain and swelling in and about the joint. Actual dislocation is rare, unless subject to great violence. Mild sprains often repeated produce a chronic condition with adhesions and contraction of the posterior muscles. The lumbosacral joint is also the seat of sprains, and a dislocation of the posterior inferior facet of the fifth lumbar vertebra is not rare. In the majority of cases there is always a history of trauma. Every case of pain in the lower back is not due to sacroiliac strain or relaxation but may be due to gynecological or neurological causes. In women one should always have the advice of a gynecologist on all cases which have not had a definite history of trauma and the neurological side has also to be taken into consideration. One case following a history of injury showed that the trauma was the last straw in setting up a Charcot spine.

Lateral sclerosis is often the cause of pain in the lower back region. In all these cases a thorough study should be made of all the aspects of the case. A word about roentgen rays: books have been written upon the fifth lumbar vertebra and it is only in later years that we have been able to get pictures that tell us anything about the fifth lumbar vertebra. From its position a picture taken with a tube at right angles to the body will not tell us anything about the fifth lumbar vertebra but if the tube is angled up from below at 45 degrees it will give us a true picture of the fifth lumbar vertebra and its inferior surface. A poor picture is not only worthless but is absolutely harmful. This applies not only in taking pictures for ordinary sprains but in examination for bone lesions.

FRACTURES OF SPINE WITHOUT CORD INVOLVEMENT

Since the introduction of the roentgen-ray machine in hospitals, the cases of diagnosed fractures of the spine have risen until they make up about 8 per cent. of all fractures in hospitals. Of these, according to a chart prepared by Murphy, 60 per cent. occurred between the eleventh dorsal and the second lumbar vertebra. Pierce Bailey estimates that one third of all cases of fracture of the spine are without cord and root involvement. The spinal column is a flexible type whose outline varies with every movement of the body. It supports the head and trunk and maintains the body in an erect posture. The spine has an anterior support, the vertebral bodies and intervertebral disks, and a posterior support, the articulations of the transverse processes. Of these the posterior supports are the more important for a lamina may be removed and the vertebral body crushed and yet one may stand erect. Fracture of the spine results from direct violence and indirect violence. The most frequent cause is indirect violence, in which you have a hyperflexion or hyperextension of the spine and a shortening of the longitudinal axis of the column beyond the limits of its elasticity. It is surprising how easily a vertebral body may be crushed in the lumbar region if the body is in the right position. A farmer had his flexed back caught under the top of a door while driving a load of hay into a barn. Miners stooping over, digging coal, are caught on the shoulders by a fall of slate. One man, a carpenter, fell off a shed about 5 feet high and alighted on his feet with body flexed. It is rare in fractures by direct violence to have the cord injured (except by hemorrhage) unless there is a rupture of the articulation.

SYMPTOMS

Patients may not stand erect but sometimes, after temporary inability, they get up and are able to go home, often they remain at work. Pain, tenderness, muscular soreness, rigidity and a flexed position of the spine are the symptoms in these cases and they are most often treated for contusions and sprains of the back. After getting out of bed if they have been confined, the rigidity of the spine does not disappear. They still complain and in a short while a kyphosis appears and then a roentgen ray is taken and the proper diagnosis made. I had one patient, an American miner, whose back was strapped by the company doctor and when his symptoms did not clear up was told to go a bonesetter. Examination showed a rigid flat lumbar spine. A roentgen ray showed a crush of the second lumbar vertebra body, being triangular in shape. Another patient, who had a fracture of the twelfth dorsal and first lumbar vertebra, was treated by electricity. Another patient, a miner, caught in a fall of slate, was in bed six days. One month later he was seen by me. He had a sharp kyphosis in the middle lumbar region. The roentgen ray showed fracture crush of second lumbar vertebra.

DIAGNOSIS

Most of these cases are hard to differentiate without the aid of the roentgen ray and in these cases none but the most competent man should attempt to ray the back. Where the body of the vertebra is fractured a side view is essential to give you the proper detail. Any patient who has been subject to a fall from a height or a severe accident to the back whose symptoms do not clear up in three or four weeks should be suspected of a fracture of the spine and should be carefully roentgen-rayed before he is allowed to go out from under your care.

TREATMENT

The mobilization in plaster cast or efficient brace for six months to a year will prevent deformity and allow repair to take place except in the most severe cases when more than one vertebral body has been crushed, when I believe the best results will be obtained by means of a bone transplant into the spinous processes and in these cases a plaster jacket or brace should be worn for at least six months to a year or longer or until the back is strong.

FLAT FEET

There are three types of flat feet: (1) Relaxed; (2) spastic; (3) rigid, (a) fibrous, (b) osseous.

The spastic and rigid types are the variety that will interest you. In the spastic type the foot is held in pronation and eversion by spasm of the peroneal tendons. As a rule there is no change in the bony structure of the foot. In the rigid type there has been some change in the surface of the bones that go to make up the joint. Whether from disease or crushing injury, the resultant change is a foot held in eversion and pronation by either fibrous or osseous changes. The spastic flat foot is one of the most common results following sprains of ankles and fractures above the ankle joint. This is due to inefficient strapping of the foot in sprains and failure to dress the foot in inversion and flexion. In Pott's fractures where the surgeon has neglected to put the foot in proper alignment, that is, in moderate inversion and about 15 degrees of dorsal flexion, a spastic flat foot generally results and in addition to this a shortened tendon Achilles. In fractures into the ankle joint and tarsals, failure of proper alignment allows adhesions or callus formation to fix the foot in an improper position.

The treatment is first, preventive; and second, operative.

Preventive.—All sprains and fractures of the ankle joint should be dressed with foot in proper alignment, that is, in moderate inversion and 15 degrees of dorsal flexion.

Operative.—Robert Jones who first described the spastic flat foot lays down the law that a portion of the peroneal tendons, about three fourths inch in length, must be excised and foot brought back into shape and then put up in a plaster cast three or four weeks. If the tendon Achilles is shortened it must be lengthened by a Beyer tenotomy.

The rigid flat foot must be redressed, adhesions broken down, and in the osseous type wedge-shaped sections of bone removed in order to bring the foot back to normal.

In industrial surgery one should look out for the long, slender foot in the working man, as it is easily injured. Another type of injury is fracture through the subastragaloid joint. This is very common in falls from a height onto the feet. Pronation and supination take place at this joint and unless care is taken in dressing the foot you get a very unstable foot.

Dr. Patterson: Before adjourning, I hope every one will register, for that is the only way for us to know who is here and to whom to send copies of the proceedings when printed. The afternoon session will begin promptly at 2 o'clock.

Adjourned at 12:30.

AFTERNOON SESSION

DR. PATTERSON: The meeting will please come to order. This afternoon we have three subjects that are to be discussed. With your permission, we will have a slight change in the program. The first subject will be that of "Health Hazards in the Manufacture of Dyestuffs," by Dr. Alice Hamilton, Bureau of Labor Statistics, United States Department of Labor, Washington, D. C. The second subject will be a symposium on "Health Insurance—Its Disadvantages and Its Advantages." The third subject will be, "How the Industrial Physician Can Help in the Campaign Against Venereal Disease." It will be presented by Dr. R. A. Jewitt, of the United States Public Health Service, Washington, D. C., in place of Colonel C. C. Pierce, who has been detained in Washington. Dr. Jewitt will show the motion picture, "Fit to Fight;" and if there is time after that the motion picture illustrating the use of "dichloramin-chlorcosane" in industrial accidents will be shown.

The states of Pennsylvania, New Jersey and Massachusetts, keenly alive to the problem that is going to confront this country in the manufacture of dyestuffs, have adopted standards for the protection of the workers in that industry. I am sure that you will all be glad to know that, as the result of the action of the enemy alien custodian in seizing the patents given to Germans and on file in Washington, there has been organized in New York the "Chemical Foundation," which has taken control of the dye patents and will license bona fide American concerns to manufacture the dyestuffs, with the result that America will take the world's trade in dyestuffs. With the expansion of this industry, it is necessary that all physicians coming in contact with the workers therein should know something of the hazards in the industry. I am sure that Dr. Alice Hamilton needs no introduction to any industrial physician, and I am certain that you will be glad to know that she has honored Harvard University by becoming assistant professor of industrial medicine. As the newspaper yesterday put it, she is the first woman honored by becoming a member of the Harvard faculty. They should have put it that Harvard University was, for the first time, honored by any woman, and a great honor has come to it, by Dr. Hamilton's acceptance of this position on the faculty. It gives me great pleasure to introduce to you Dr. Hamilton who will tell us of the health hazards of the dye industry.

HEALTH HAZARDS IN THE MANUFACTURE OF DYESTUFFS

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The situation in the dye industry at the present time is fraught with apprehension to those who know how many new substances have been brought into the United States of America in connection with the manufacturing of dyes. Up to 1914, benzene (and I am going to call it benzol, if you do not mind; although the purists do not; you can see the difference when in print; but in speaking, you cannot indicate the difference between benzin, with an "i," and benzene, with an "e") was bought in Germany. Although it was known as a solvent for gums, it was not widely used. We are now using it more and more to displace the petroleum solvents. The dye industry is founded upon benzin and benzol and its derivatives. We know of the poisonousness of these compounds by a study of German literature, but it is never safe to assume that what is true of a foreign industry is going to be true of the same industry in this country. So what I am telling you today is from American sources only. All the cases have occurred in this country since 1914.

The raw materials are benzol, toluol, phenol, xylol, naphthalene, etc. Of these, benzol, toluol, phenol and xylol, are toxic. Naphthalene is partly so. I find evidences of its toxic action on the eye and on the gastrointestinal tract and kidneys. The others are not poisonous.

There are twelve distinct and separate manufacturing processes. I am not going to attempt to even mention the primary bodies or processes that are used in the making of dyes. The subject is frightfully complicated. I have not nearly mastered it myself; and if I attempted to tell you what I have written down on paper, the result would only be confusing. The important thing to keep in mind is, I think, that you are starting with, as the usual thing, benzol or toluol; and then that compounds often poisonous enter into combination with various other compounds, forming bodies that are sometimes more, and sometimes less poisonous, but often have some poisonous effect.

Starting with benzol, it is perhaps unnecessary to tell you that we have had some serious, and some fatal cases of benzol poisoning in recent times. Now a certain procedure is insisted upon before a man is permitted to do repair work, particularly in tanks, and that is that there shall always be two men to do the work. I remember a case in New Jersey. In sulphonating the benzol, part of the product escaped sulphonation. Part escaped into a liming vat, and the man doing the work breathed the fumes. In that same room, a few days later, a man died near the benzol supply pump. As a usual thing, however, these fatal cases have come from the entrance of the employee into a receptacle that has held the benzol, supposedly after it has been thoroughly cleaned. It is essentially a poison of the nervous system, and, if long enough exerted, its action on the elements of the blood causes destruction of the red and the white cells. There is a period of intense excitement, which is followed by death. There is also an action on the smaller blood vessels leading to extravasation of blood under the skin. The man may look as if he had been beaten all over. Severe nosebleed is often also a symptom in such cases.

Five cases of benzol poisoning from exposure of a number of years have been reported by the Department of Labor of Massachusetts. Three were fatal. All came to the hospital because of severe and uncontrollable nosebleed. Most of the patients had previously had attacks. There were these blotches under the skin, and the blood showed great reduction in the number of red and white corpuscles. In the fatal cases, the reds fell below a million; and the whites had almost disappeared.

Now anilin, which is an amidobenzol, is very common as a poison in its milder forms. Very severe and fatal anilin poisoning is not frequent, however. It does not irritate the throat, eyes or nose at all. It brings about the symptoms without warning of its dangerous nature. There is fulness in the head, dizziness, blindness, and sometimes nausea and pains in the stomach.

The pupils are sometimes dilated, and sometimes small. The flushing of the face often passes over into a grayish tint, and sometimes one of decided cyanosis. The ordinary case usually clears up in twenty-four hours. It is rare for a workman to stay away longer than twenty-four hours. Headache and slight confusion may last longer.

I came across, in the Brooklyn Hospital, the first case of anilin poisoning that had ever reached the hospital. The man had fallen unconscious in the dye works, and the physician thought that he had fallen into the dye vat, because he was so purple. The arterial tension is low. Consciousness may be lost for several hours. It is rare to have coma last more than twelve hours. Death is very unusual. I had but three instances of death from anilin poisoning in the dye works. The first was in a man who had suffered for several days. He had taken some whisky, and was put off the street car. The next day after this, he was found dead. The case was in litigation. The man did reek of anilin, and undoubtedly had been drinking. The second case was that of a carpenter, who had gone into a tank that had not been thoroughly washed. He was poisoned and died some hours afterwards. A third man had his hands right in the vat. He came, one morning, complaining of headache, and was advised to go home. He did not go until noon. The doctor was called, and found him cyanosed. The doctor left; and ten minutes later, the man had a convulsion. The doctor, an hour later, found him unconscious. He got constantly weaker, and about eighteen hours afterwards was dead. The severe symptoms coming on after the man got home is a characteristic of this kind of poisoning. They almost always come on after the man leaves the plant. This man had anilin on his clothes, but had not been told the danger of it. He did not lose consciousness until five hours afterwards.

Slowness of speech and pain in the chest are common. Dr. Bugbee emphasizes precordial pain, and has noticed a systolic murmur in two instances. In one, a man had a relapse, and came down with influenza, but recovered. A man with a sore or cut finds it dangerous to work in anilin. Sometimes there is an anilin rash. Some cases are without symptoms. Those cases are thought to be valvular heart trouble, because of the breathlessness and the cyanosis. Several such cases have come to my notice. No heart murmur could be detected. I have had foremen tell me that you cannot push anilin workers too hard, because they are irritable and become drunk.

There is a decided difference in susceptibility to anilin poisoning. A number of men may be exposed to the same extent, and some will have severe symptoms and others will have none. Methemoglobin is formed. The normal interchange of gases is partly suspended for the time being, and there is air hunger. As an effort to overcome that, nature throws out a large number of red blood corpuscles. Anilin workers are found to have an enormous number of red blood corpuscles. That condition does not persist long; and after that, there is anemia. The urine is likely to change in color and is sometimes brownish. Distinct casts are seldom passed. A case of severe albuminuria following anilin poisoning has been reported.

These are a few instances that I have collected, from American factories, of the ways in which men may become poisoned. One worker splashed anilin on his shoes; another took off his shoes to save them; another man sat on top of a barrel outside, a little anilin had collected on the top of the barrel, and this poisoned him. One man worked with bare hands, and quickly lost consciousness. Another worked with gloves, and got his gloves soaked through and was ill fourteen days as the result. A shipping clerk got splashed in the face. A man let some of the dye run into the wrist of his rubber gloves, and was ill for a week. There was a very serious case in a man who started to mop up some spilled anilin. He became dizzy and fell to the floor and into the fumes. It was some hours before he was found, and it took many hours of work to pull him through. I have found only one instance of swallowing anilin, and that was in a chemist. He spat it all out and washed out his mouth with acetic acid. He soon began to feel queer, and then excited and happy. After that he collapsed and fainted, and for a week afterwards had no energy.

I have described in detail the symptoms of anilin poisoning, because they are practically the same as in poisoning by all the anilin derivatives and amido bodies. Also they do not differ from the symptoms produced by the nitro compounds. But I am going to speak of some of the instances of poisoning from these other bodies.

Some men tightening up the hoops of the barrels of paranitranilin got enough to become cyanosed and bring about anilin poisoning. A man had been working on paranitranilin for two weeks. He suddenly became weak and fell to the floor unconscious. On the fifth day he was back at work. His face looked drawn and anxious.

Metanitranilin was being largely used last summer in the making of khaki dyes. Dimethylanilin is used in the production of quite a number of dyes. Some cases have been reported of poisoning from dimethylanilin and diethylanilin which are however less poisonous than anilin. I have been in search, for the last two years, for the details of five cases of paranitranilin poisoning and just succeeded in getting them the other day. These men were working on a night shift. The foreman had made a mixture and the tank boiled over. Two of the men were taken to the hospital; two were treated at home; and the fifth I cannot find a record of. Only four were seriously poisoned. They had bloody urine, bloody vomiting, and profound anemia. One man died; one has never recovered his health in the two years that have elapsed since the accident; the third is working, but has never been healthy since; and the fourth has recovered completely. A case of the same sort was related to me the other day by Dr. Alfred Stengel, of the University of Pennsylvania. The man had been exposed for ten hours, and he could not get his strength back. He went to the University Clinic in Philadelphia and Dr. Stengel found his red blood corpuscles below one million. He died later. These are instances of what may happen if exposure to the poison is extensive. In Dr. Stengel's case, it was dust poisoning—the result of the screening of the paranitranilin.

The nitrobenzenes are considered in European countries to be more poisonous than the anilins. They have had profound poisoning from nitrobenzene in both Germany and England. In the literature of these countries you get shocking pictures of the poison. I have not found much evidence of it in this country; but it is the general opinion over there that, if exposed, it takes a man longer to get well than in cases of anilin poisoning. I have found slight splashing to bring forth nitrobenzene poisoning accompanied with systemic symptoms.

Nitrochlorbenzene is used in the making of sulphur dyes. In addition to systemic symptoms it causes a distressing itch. A good many of these substances are very irritating to the skin because of the distress set up by an itching and burning, which incapacitates a man more than do systemic symptoms. A man can go on with his organs poisoned much longer than he can endure an itching. I have known of a plant's being denuded of workmen because of a distressing itch. Nitrochlorbenzene causes this. It must be handled with care. Dinitrochlorbenzene is best handled out of doors.

Nitrophenol poisoning occurs in the manufacture of explosives. You must bear in mind the fact that there is a form of poisoning familiar to the French, which occurs when they use picric acid. It is accompanied with a sudden sharp rise of temperature.

Phenol chlorid, I cannot tell you much about. I do not know how poisonous it is, or whether it is poisonous. It is made by driving the fumes of chlorin into toluol. I had a case of great wasting and loss of strength reported to me. The man was a chemist, but I am not sure whether this caused the poisoning. It was used during the war as a poison gas. It is rapidly fatal, if the man is poisoned sufficiently to cause thrombosis of the capillaries when he exerts himself afterwards.

Phosgene poisoning is prevalent in the dye works. We have had three cases of fatal phosgene poisoning. Several chemists were overcome by it. Dimethyl sulphate is a powerful poison. The chemists treat it with more respect than they do any other substance except phosgene. It is used for introducing the methyl group. If you do this with dimethyl sulphate, you do not need to heat it. This does it more quickly and you can use methyl or methyl chlorid in an autoclave and bring about the same result, but it is more expensive.

Sulphureted hydrogen is very poisonous, it strikes down a man very quickly. A workman had gone up a ladder to adjust a belt, and the exhaust carried off the sulphureted hydrogen.

He had barely time to reach the floor before he fell over. It has to be handled with great care. Dr. Hudson of the du Pont Company told me that, of all the poisons that he had experimented with, this was the most rapidly fatal. Some chemists, however, will not admit that it is poisonous. That it was among the gases selected by the Germans for use in this war shows that they must know that it is not harmless. The symptoms may be produced by as little as 0.3 per thousand parts of sulphureted hydrogen.

No accident is more dreaded than a splash of caustic potash in the eye of the workingman. It must be handled with great care.

CHEMICAL CLASSIFICATIONS OF DYES

The anilin dyes are classified in many ways, but the following is the usual classification when chemical structure is taken as the basis:

1. *Azo Dyes.*—These are made with a primary amin, anilin or toluidin, or toluylene diamin or benzidin or some similar body, which is treated with nitrous acid in the cold. The diazo compound produced is then coupled with an aromatic amin or phenol to form an azo compound. These are unstable compounds, and the diazotizing must be done at about zero C. This fact and the further fact that it is not necessary to use large quantities of amins make the manufacture of azo dyes fairly harmless. In fact, this is probably the safest branch of the industry.

2. *Anthracene Dyes.*—The most important of these is alizarin, only recently manufactured in the United States. Madder, one of the oldest of dyes, is natural alizarin. Anthracene is oxidized to anthraquinone, usually with potassium bichromate. This is sulphonated and then fused with caustic soda and chlorate of potash to form dioxyanthraquinone or alizarin. There is little danger in these processes except from handling the caustic and chromate. Chrome ulcers are not at all uncommon among the men employed in the production of anthraquinone.

3. *Indigo.*—Here the risks are greater than in the two former classes of colors. The starting point for indigo may be naphthalene or anilin. Benzene is nitrated to mononitrobenzene, this is reduced to anilin, and by the action of anilin and monochloracetic acid phenyl glycin is formed, which, on treatment with caustic soda or sodamid, is changed to indoxyl. Air is blown through the indoxyl to oxidize it to indigo. In this process we have all the familiar dangers of nitration, of reduction to anilin, and of handling the anilin. Monochloracetic acid is a strong acid.

The next four classes of dyes are about equal as far as danger of poisoning is concerned. These are:

4. *Di- and Triphenylmethane (or arylmethane) Dyes.*—Auramin is the only diphenylmethane dye of importance, but the triphenylmethane dyes are numerous and important, including the malachite green series and the rose-anilin-fuchsin-magenta series.

5. *Pyrone Dyes.*—These are closely allied to the above and are sometimes classified with them. The eosins and fluoresceins belong here.

6. *Azone or Azine Dyes.*—Nigrosin is the best known of these. It is made from anilin hydrochlorid and nitrobenzene.

7. *Oxyazine Dyes.*—This is an unimportant group of which gallocyanine is the most commonly known.

For these dyes use is made of large quantities of anilin and paratoluidin; anilin hydrochlorid (often called anilin salt); and the alkyl derivatives of anilin, especially dimethylanilin, benzyl chlorid, and (for the azine and oxyazine dyes) nitroso dimethylanilin. The cases of poisoning reported are usually due to contact with anilin or toluidin, for these are more powerful than their derivatives.

8. *Nitro and Nitroso Dyes.*—There is still more risk of industrial poisoning in the manufacture of these dyes, and many of the resulting colors have poisonous properties. The best known are picric acid or trinitrophenol, Martius yellow or dinitro naphthol, and aurantia or hexanitrodiphenylamin. In manufacture, the danger comes from the nitrous fumes and is greater the stronger the nitric acid used.

9. *Sulphur Dyes.*—This last group involves more danger of poisoning than any other. Sulphur black belongs here, sulphur blue, sulphur yellows, and sulphur browns. The introduction of sulphur results sometimes in the liberation of sulphureted hydrogen. This danger is greatest in connection with the making of browns and yellows, much less in connection with sulphur black, and practically nonexistent in the making of sulphur blue. Sulphur browns and yellows result from the treatment of phenylene diamin with sulphur or sulphur and benzidin. In order to obtain phenylene diamin, anilin and glacial acetic acid are mixed to form acetanilid. This is nitrated and then saponified with caustic soda to paranitranilin, which in turn is reduced with iron and hydrochloric acid to phenylene diamin. For sulphur blue and sulphur black, benzene is chlorinated, then nitrated, and the paranitrachlorbenzene is fused with caustic to become paranitrophenol or dinitrophenol. Treated with

sulphur, dinitrophenol yields sulphur black. For sulphur blue, paranitrophenol is reduced to paramidophenol, which is acted on by dinitrochlorbenzene to form dinitrodioxyphenylamin, which with sulphur in alcohol forms sulphur blue.

All these substances are volatile poisons—some of them very powerful ones.

There are factories in the United States devoted solely to the making of intermediates such as the following:

Anilin hydrochlorid or anilin salt. This is almost always done in an open shed, since the fumes of anilin and hydrochloric acid would be dangerous if not greatly diluted. The reaction takes place in open tanks. The resulting crystals are pumped out, the liquor removed in a centrifuge and sent to the "stripping room," where the unchanged anilin is stripped or distilled off. Amidonaphtholdisulphonic acid or H acid is an important intermediate made by the sulphonation and subsequent nitration of naphthalene, followed by amidation and caustic fusion. Fumes of nitrogen oxides may be given off.

1. 2. 4. amidonaphtholsulphonic acid is made from the sodium salt of beta-naphthol. Treated with nitrous acid, it becomes nitroso beta-naphthol, which is an irritant poison to the skin, causing what the men call "nitroso itch." Nitrous fumes also are a danger here. Reduction and sulphonation are performed at the same time, with the possible production of fumes of sulphur dioxid.

Benzidin base and naphthionic acid combine to make Congo red, a cheap cotton dye, which is exported to India. For the benzidin base, nitrobenzene is reduced with zinc dust to oxyazobenzene, and subsequently to azobenzene and hydrazobenzene. It is then treated with hydrochloric acid, and benzidin is formed by rearrangement. The dangers here are from the nitrobenzene and from possible fumes of sulphur dioxid. Naphthionic acid is made from alpha-naphthylamin, similar to anilin in its effects, and sulphuric acid.

Metanitranilin is an intermediate for khaki dyes, made by reducing dinitrobenzene. With it is used picramic acid (dinitroamidophenol), which is made by the reducing action of sodium sulphid on dinitrophenol.

Paranitranilin is an important intermediate. When diazotized and coupled with beta-naphthol it forms para red. The manufacture of paranitranilin has already been described. For beta-naphthol, naphthalene is sulphonated, neutralized with soda ash, and then fused with caustic soda.

Michler's ketone is tetramethyldiaminobenzophenone. It is an important starting point for many colors, especially blues, greens, and violets. It is formed by the action of that highly poisonous gas, phosgene, on dimethylanilin.

When you talk of the prevention of poisoning, you must know how poisons enter. If the poison enters through the respiratory tract, dust and fumes are the dangers; if it enters through the skin, personal hygiene, cleanliness, is important. The most important poisons enter through the skin, and the most important point in prevention is cleanliness. In one factory, they provide each man with a clean suit of underclothes. He takes a shower bath, puts these on when he arrives, and when he goes home he leaves behind him the clothes that he has worn to work in. These are put through the laundry before being used again. The firm has done this in order to keep down the number of cases of occupational poisoning. This may not be necessary in plants where there is not so much dust or where there is no paranitranilin.

Medical supervision is enormously important. I do not mean in the doctor's office, but in the plant itself. The physician must go in and out of the plant to spot the men whose lips are beginning to turn gray. A visit should be made every half hour. There should be: first, care of the workman's body; secondly, care of the air he breathes; and thirdly, medical supervision.

Dr. Patterson: I am sure that we are indebted to Dr. Hamilton for this wonderful description of the hazards of this new industry. The discussion on this paper will be opened by Dr. F. G. Mohlau, chief surgeon, National Anilin and Chemical Company, Buffalo, N. Y. I take pleasure in presenting Dr. Mohlau.

DISCUSSION

Dr. F. G. Mohlau, Chief Surgeon, National Anilin and Chemical Company, Buffalo, N. Y.: Unfortunately, I am a very poor speaker, and I am compelled to read my remarks to you. I thoroughly enjoyed what Dr. Hamilton has said. I can only give you my personal experience in anilin poisoning.

The dyestuff industry, while a comparatively new venture in manufacturing on this side of the Atlantic, has opened many interesting avenues in scientific research leading to a more intelligent treatment of the vocational ailments created by this industry, which have heretofore been more or less indifferently handled by the medical profession at large.

Many are the ailments and complaints peculiar to the chemical industry and it falls to the part of the industrial physician to guard against pathological changes taking place in the system of such employees. The effects of the handling of coal-tar derivatives, particularly in the manufacture of munitions and dyestuffs has recently brought these ailments to the close attention of the medical men.

In discussing these conditions, I wish to state that I am expressing only the results of my own experience gained by my many years as an industrial physician in a plant handling coal-tar derivatives and without regard or reference to medical literature.

I find that the resisting power of the workmen to anilin poisoning varies; some cases develop on the first day of employment, others after working for some time, but I have found very few entirely immune from these troubles. Some cases are severe, others mild. There is no question but that it takes some little time for a man to become accustomed to the atmosphere in which he is employed. The air is always more or less charged with gas and dust particles evolved in the manufacturing process, which float in the air at the man's level. The men experience many minor troubles, as lack of appetite, constipation, diarrhea and headache predominating. Muscular pains and backache and various skin irritations are also a frequent reason for complaint.

If these conditions were all we had to contend with, they would be of very little consequence but, in fact, they constitute a valuable experience in our dispensary.

One of the chief dangers is so-called acute anilin poisoning of which I will attempt to give you a clinital picture.

Anilin poisoning is much more likely to develop on a cloudy day than on a bright, clear day, and not only in the anilin department itself but also in departments where benzol products are undergoing a process of nitration, yielding compounds such as dinitrobenzol, chlorodinitro and the trinitrobenzol.

The man comes to work in the morning as usual, apparently well and in good spirits. After working perhaps a couple of hours, he will suddenly change color, become pale and complain of a violent headache; he becomes slightly nauseated, then cyanosed, dizzy, syncoped. If he is not quickly removed into the fresh air, the symptoms become seriously aggravated; the breathing is shallow and difficult, the pulse appears a slow, large, soft, full wave; yet by count we find it accelerated, temperature subnormal, and the patient will complain of extreme fatigue.

We find that these acute cases develop not only by inhalation of the gas or dust particle charged air, but also through absorption by the skin from clothing saturated with the above compounds, and if perspiration is not usually being profuse, we find absorption through the skin to be fully as dangerous as inhalation through the respiratory organs or by entrance into the alimentary tract. For this reason, men are required to bathe and change their clothing frequently, and wear materials which will prevent, as much as possible, penetration to the skin. In most departments, gas masks, goggles and gloves are distributed to the men, but owing to the ignorance and negligence of the worker, they are only too often discarded with dire consequences. The alimentary tract and lungs being the natural port of entry to the system, derangements of lungs, liver, kidneys, bladder and the nervous system are common. Skin affections of many varieties come frequently under observation along with changes in the blood.

In such acute cases, we find that the urinalysis shows little change, except high color. Specific gravity is 1.024 and above. Indigo we usually find; albumin, often a trace; squamous and cylindrical epithelium usually present; most samples I have examined are alkaline in reaction.

The blood shows hemoglobin reduced 70 per cent. or less, red cells have a decided deformity in size and shape and some nucleated forms. The spectrum shows bands of methemoglobin. Toxic hymoglobins —the red cells seem to lose their function in not throwing off CO_2 and taking up oxygen. Hematuria, no matter how little, if it appears, is a grave danger signal, which must not be overlooked and requires careful examination of the men presented and drastic measures. The bladder in particular of the genito-urinary tract is affected. Cystitis of varying degrees may be the cause, and often a cauliflower growth, called the anilin tree, from its resemblance to a tree developing, is found, which may entirely obliterate the bladder. We all know that influences travel in the course of least resistance, so that the most careful examination of kidneys and bladder is required to inhibit any progress of pathological changes, and to bring about a cure, no matter how severe are the measures necessary.

I have seldom found lasting ill effects upon the respiratory tract, a catarrhal bronchitis sometimes developing at the changeable seasons of the year. Only in isolated cases have I been able to trace any pulmonary affection to the anilin and its compound directly. In cases of severe toxemia I have found edematous condition produced and serous râles can often be heard in men so affected.

We have to carefully guard against chronic constipation; the liver becomes involved, the patient complains of a bitter taste, a yellow-tinged bitter sputum is raised, urine highly colored with a high specific gravity, rich in bile pigment. The liver may enlarge, become somewhat spongy with fatty changes eventually.

The effect of anilin or nitro compounds on the skin is very troublesome and may become very severe, but this cannot usually be attributed to personal negligence. The principal one of these dermatites is the so-called benzol itch. Little herpes will appear between the fingers, with intense itching. As soon as these blisters begin to break, the trouble spreads rapidly over the hands and forearms, then to the folds of the neck and is carried by the finger nails to the feet and legs, and if not cared for will affect the face and whole body, and becomes a very serious condition, involving mouth and pharynx, and eventually attacking the genito-urinary tract, through the meatus in particular. Cases that are not quickly checked may assume such a character as to be mistaken for erysipelas on account of the large blisters forming and the cellular tissue affected. This accentuation is very often caused by the patient using ointment containing vaselin bases, and is a treatment against which a patient should especially be warned.

A form of purpura, with little hemorrhage, has often come under my observation. Some of the color compounds are able to produce a condition resembling measles and there is some scarlatinal rash in all of these eruptions. I have found magnesium sulphate to have wonderful curative powers.

The effects of anilin and compounds upon the nervous system may become lasting and progressive in character. The patient displays symptoms easily mistaken for locomotor ataxia. Speech becomes thick and uncertain, wavering; his gait more or less unbalanced and impulsive. And yet he may be able to walk a straight line, and has no fear in the dark or when the eyes are closed. The sexual desire is usually not increased, but in two cases I have observed, I have found decided sexual perversion. In one case particularly I have seen self-abuse practiced to such an extent as to actually become the cause of death.

The effects upon the genito-urinary tract as before mentioned are of a most interesting character from a clinical standpoint, as conditions have been so little understood by the medical profession in general that patients have had very little chance for recovery.

It is generally in the cases of men who have been connected with the manufacture of dyes for some years who develop serious trouble. When they become sufficiently sick to finally avail themselves of medical advice, it is usually too late to give lasting relief, or to effect a cure. For this reason, I have felt it my duty to repeatedly examine such men as are employed in the mixing and shipping departments, and where possible, shift them occasionally to places where they will have more recreation and be in the open air and sunlight. They are obliged to report when they notice the urine highly colored or smoky in appearance.

In cases where the poisoning develops gradually, the period of recovery is protracted and is frequently not complete, on account of possible pathological changes in various organs, but most of our cases make a splendid recovery under proper care and treatment. But after a man has once overcome an attack of anilin poisoning, he must be careful not to become exposed to a new attack. The man seems to be more susceptible and the blood changes will be more severe.

Dr. Patterson: Dr. J. W. Schereschewsky, of the United States Public Health Service, Washington, D. C., who was to have continued the discussion on Dr. Hamilton's paper, is unable to be here. Has anyone else any remarks to make on this subject?

Before passing on to the next paper, the chair will appoint the committee to consider the question of traumatic hernia. The committee will consist of Dr. A. W. Colcord, chairman, with Drs. C. A. Lauffer and S. P. Mengel.

The committee for the purpose of devising a code of standards for the prevention of carbon monoxid poisoning will be as follows: Mr. John Roach, chairman, assisted by Drs. Edward Martin, A. J. Lanza, S. Dana Hubbard, Alfred C. Marshall, L. A. Shoudy, and Francis D. Patterson.

It can be truly said that we are sitting on the edge of a volcano in the social unrest that is a characteristic of these days. The workman is looking for a change, he knows not what. Is health insurance the panacea for all our ills, or is it, instead, a piece of insidious German propaganda? Let us get busy now, rather than subsequently to cry and wail that an injustice has been done to us when this legislation is finally passed. Instead, let the medical profession shape this legislation and make it fair to the doctor, the workman and the public at large. The first speaker on the subject of "Health Insurance—Its Disadvantages and Its Advantages" will be Mr. John A. Lapp, of the Ohio Health and Old Age Commission, Columbus, Ohio. I take pleasure in presenting Mr. Lapp.

HEALTH INSURANCE—ITS DISADVANTAGES AND ADVANTAGES

JOHN A. LAPP
Formerly Director, Ohio Health and Old Age Commission
COLUMBUS, OHIO

I assume that this is something in the nature of a joint debate; and inasmuch as my part in the program has been put forward, I assume that the affirmative of the question will have the closing argument. I assume, further, that mine is the affirmative part of the argument, because Dr. Hoffman is on the program.

Let me say first, that I am intensely interested in industrial medicine. It has been only a little over a year and a half since I commenced to study its possibilities, but it appears to be "all wool and a yard wide," all gain and no loss. But we should remember that fully 70 per cent. of the workers of this country are in individual employments or in establishments so small that industrial medicine on the scale that you are carrying it on cannot be available. This body of workers is generally left out of consideration in presenting the subject.

On the subject of health insurance let us first make certain assumptions so that we shall not dispute about well-accepted facts. We shall not discuss that three and three make six for instance, or that the sun rises in the east. We shall not discuss the existence of the problem of sickness or that insurance is the best method that we have ever found for distributing the burden that comes when we all bear a certain risk. You remember the story of the scientist who was traveling on a train with a friend, when on the hillside they saw some sheep. The friend said, "Those sheep are sheared;" and the scientist replied, "On this side, at least." I say this because I want things that are obvious accepted in this discussion.

Now, then, what are the main questions that we must consider? (1) What is the burden of sickness? (2) Who bears it now? (3) Who should bear it? (4) Can a universal insurance system be organized in such a way as to meet the problem?

1. Is there a burden of sickness? The Ohio commission, with which I have been connected, has made comprehensive studies, in cooperation with the Pennsylvania, Illinois and Connecticut commissions, along these lines. We covered eleven establishments with a membership equivalent to 633,000 for a year. The survey covered 132,000 cases of disability.

These figures are comprehensive enough to give us a fair view of what the ordinary problem of sickness is in a body of workers. In these establishments, we found that 20 per cent. were sick more than seven days; that is, beyond the ordinary waiting period. Of those that were sick, 65 per cent. were sick less than four weeks; 19 per cent. from four to eight weeks; 6 per cent. from eight to twelve weeks; 3 per cent. more than six months; and 1.3 per cent. more than a year. In the study of the Workmen's Sick and Death Benefit Society compiled by the United States Bureau of Labor Statistics for the State Commission, approximate results were obtained.

We found that on the average, people lose about nine days every year through sickness. With the waiting period out, and allowing benefits for twenty-six weeks, the average is about six compensated days. If benefits are given for a year, there would be about seven compensated days; and if benefits are given without time limits, the average of compensated days would be slightly increased. These figures are sufficient indication of the extent of the burden of sickness.

We will admit that nine days' sickness would not be a serious handicap if each person suffered only that much. But it is not distributed that way. Possibly the 5 per cent. who are sick less than four weeks may be able to tide themselves over their sickness without dependence or permanent handicap. But what shall I say about the percentage that are sick for longer periods? Is it possible for any large number of ordinary skilled working men to stand a sickness of three months, six months, a year or even more without temporary or permanent disaster? Sickness picks its victims at random, striking this one or that without any regard to the ability he may have to bear the burden.

Let us see to what extent the burden is now distributed by insurance.

We estimate on the basis of a considerable investigation of fraternal benefit societies, that 35 per cent. of the workers in Ohio are carrying some kind of health insurance; and the same is true in Illinois. But this insurance invariably is an amount equal only to from five to seven dollars a week, with practically no medical benefits, except in a few lodges in which there are medical benefits, so-called, for a dollar a year per member. The loss carried by insurance is estimated at 10 to 15 per cent. on 35 per cent. of the workers, which is 3 to 4 per cent. of the total amount of loss from sickness. These figures mean that 96 to 97 per cent. of sickness is being borne by the individual who happens to be sick or the consequences are being borne by the public in the form of relief and charities. A little over $2,000,000 was paid in Ohio last year for benefits to workers for sickness. The loss amounted to more than $80,000,000. You get an idea of the magnitude of the loss which the workers now bear themselves. We have a heavy burden of sickness, and it is being borne by the unfortunate individual who happens to get hit by long disabling spells of sickness.

Is health insurance a way of carrying the burden? All experience proves that it is. We universally carry fire insurance. Custom demands that we do. We could not get along without it. We could not get credit at the bank if we did not. We have accepted the principle in this country that insurance is a means of distributing common risks. We have been putting a premium on dogs and thereby insuring sheep. A man whose sheep are injured or killed collects his money from the township or county fund. They have hail insurance in the Northwest and in Canada. A state fund is created to pay the losses; nine or ten states raise a fund to insure bank deposits. A depositor who loses in a bank failure presents his claim and draws his benefits from this fund. We have workmen's compensation in thirty-nine of the states. We have collected from employers certain amounts and have thus created a fund, from which the workman is paid part of his wages and his medical care is given him when he is injured in the course of .employment.

What shall we say about the desirability of adopting a comprehensive plan to meet the greater social losses caused by sickness? It is said that we can depend on the people to develop insurance voluntarily so that this burden can be carried. Granted that this could be done to the extent that it was in England at the time the health insurance act was passed; still the problem is not solved. Only the average better-to-do people get insurance voluntarily and the others, who need it most, fail to take the precaution. Furthermore, if you have private insurance, you must remember that competition, whether state or company competition, involves considerable expense. You must pay to the private insurance companies their legitimate charge. It will cost in Ohio an extra $30,000,000 to provide universal insurance voluntarily through competitive methods, even if it could be done at all. Can we in conscience, put on the workman this extra burden if there is any way for the public to provide it?

What must we do? We must see that the man is tided over the time of his sickness, that he is not driven into destitution. Thirty per cent. of those who borrow from loan associations on chattels borrow because of sickness. Thirty-five to 50 per cent. of those who go to charitable organizations do so because of sickness. Thirty per cent. of those who are in infirmaries and 40 per cent. in private old folks' homes are there on account of sickness. These are established facts, based upon wide investigation by many agencies. Let us not, however, confuse the issue with poverty. We are not here concerned with people in poverty, but of the great rank and file of fairly well-to-do industrious working men who, in ordinary circumstances, are proceeding without trouble. We want provision to tide people over emergencies so that they shall not economically descend into poverty or economic distress.

Then, we must provide adequate medical care. To me, health insurance is largely a problem of medical care. It is a problem of restoring the man to his working capacity, putting him back on his feet, so that he can earn his living independently. We must give adequate medical care also to insure physical rehabilitation. You have seen in your plants the necessity of restoring the men physically and getting them back on their jobs, not only so that they can earn their living as they did before they were sick, but so that the burden of cash benefits may be removed from the insurance funds.

Then the question comes up, if we provide this insurance and give these benefits, and it costs $25 or $30 per worker, who is to pay for it? Well, who is to blame for sickness? Is the individual to blame? Some say he is. You know that he is not entirely to blame. Is the industry to blame? Certainly, for some things, but not for all. Is the community to blame? For some things, but not for all. Sickness comes from the interrelation of these three causes; the individual, the community and the industry. In most cases of lead poisoning the industry is responsible; in most cases of typhoid fever, the community is responsible; and in nearly all cases of venereal diseases, the individual is to blame. But there are large numbers of cases in which all are responsible to some extent. The man who is susceptible to tuberculosis and works in a dusty trade will get the disease, whereas he might not do so otherwise. The man of this kind who lives in a badly ventilated house is likely to get tuberculosis. Since we cannot separate the causes, the proper thing is to lump the cost together and have all bear it. The industry should bear about one third; the community the same; and the man the rest. If industry were responsible entirely, we should have an extension of the Workmen's Compensation Act to cover such cases; but industry is not entirely responsible. We cannot divide the responsibility, so we lump it together and require contributions from employers and employees on an equitable basis, with the community providing the hospital facilities and the overhead expenses.

People grow alarmed at the cost of health insurance, but really, is there any cost in any kind of insurance? Insurance is a means of distributing cost, but does not create cost. Sickness is here before insurance is applied, therefore the cost is here. Someone is bearing it now. It is a new and equitable distribution of the existing cost that is necessary. We lose in Ohio $80,000,000 every year from sickness. The cost is there; and any plan of insurance merely distributes the cost.

The second matter is the problem of prevention. In Ohio, the commission has given considerable attention to sickness prevention. A large part of the report is given to it. Sickness prevention was advocated, and it is believed that the program will go through. We did not think of sickness prevention as being opposed to health insurance, but as a thing that should be provided whether we had health insurance or not. It is not a substitute for insurance in any way. After you have almost reached what you would call Utopia at this time in prevention, we shall have 60 to 70 per cent. of sickness left. The 60 or 70 per cent. of sickness will hit this man and that, just as it does now. Prevention would take care of the man before he is hit, but would not take care of the battle casualty at all. We are all for prevention; but Dr. Hoffman said this morning that after twenty years of constant agitation about dusty trades, conditions were as bad as at first. It is small consolation to the men who fall into destitution because of a long illness to say that sickness has been reduced 30 per cent.

It has been said that we will make the man dependent; that we will be setting up paternalism. I cannot undersand how any one can suggest the relation between democracy and paternalism. It is to misconceive utterly the nature of our democracy to charge it with paternalism. If democracy means anything at all, it means that we are banded together to do certain things for common use and benefit. There cannot be paternalism in a democracy. It is fraternalism. But if it were what people conceive to be paternalism, it would not be so terribly bad. Every act of government compels people to do certain things. Law already controls a man's life more than health insurance could possibly do. When we pass health insurance laws we shall do it by the action of our people. If it comes in Ohio at least, it will come after the people, in a referendum, have approved it. They will enter into it with eyes and minds wide open; and it will not be a question of paternalism at all, but of cooperative democracy.

These are the issues before us. There are certain things that are very clear. There is a burden of sickness that is not now being distributed. Everybody has accepted insurance as the proper means of distributing risks, and the question is whether we are willing to take steps to distribute universally the great burden of sickness as we have already provided for the distribution of the lesser burden of accidents and the risks of property loss by means of social insurance.

Dr. Patterson: I now call on Dr. Frederick L. Hoffman, third vice president and statistician, Prudential Insurance Company of America, Newark, N. J., to continue the symposium.

HEALTH INSURANCE AND THE PUBLIC

FREDERICK L. HOFFMAN, LL.D.
Third Vice President and Statistician, The Prudential Insurance Company of America
NEWARK, N. J.

This is not, as intimated by the preceding speaker, to be a joint debate. It takes two to agree to a debate and I would not agree jointly to discuss this matter with Mr. Lapp, or with any one else, on an occasion like the present. This is to be a discussion solely as regards the merits of health insurance and its relation to the public. Mr. Lapp has presented his case, and I intend to present mine precisely as arranged before I heard his arguments, though, of course, modified as far as may be necessary in view of what he has said. I have no intention of participating in a joint debate or a controversy. Frankly, I am unconditionally opposed to health insurance as a measure inimical to the best interests of the people and as certain to bring about obnoxious class distinctions and the virtual control of wage earners and their dependents by a political machinery of enormous proportions. I have opposed health insurance on any and every public occasion for more than twenty years, and I have missed no opportunity to warn the public against this most insidious growth of a typical German idea on American soil.

Mr. Lapp has overlooked what the late Professor Sumner has called "The Forgotten Man." Mr. Lapp argues for a mythical laboring man, who does not exist but whom he assumes to represent. No labor interests, as far as I am aware, have requested the American Association for Labor Legislation, or any state representative, to make propaganda for compulsory health insurance. Reformers of this class do not know the laboring man and do not know labor conditions. In industrial insurance some twenty-two companies, on Dec. 31, 1917, had 37,468,776 industrial policies in force, almost exclusively on the lives of wage earners and their dependents. We may therefore rightly claim to represent the American working people collectively much more and much better than those who deal with the masses in an academic manner and frequently without personal knowledge of the very conditions which they claim are so urgently in need of drastic reform.

It was my privilege to commence my business life as an industrial agent and to gain a close knowledge of the life and the labor of the poorest poor. For many years I had opportunities for intelligent observation in tens of thousands of wage earners' homes. As I had occasion to say in my history of the Prudential, "On account of the peculiar nature of the business of industrial insurance, the relations of agents to policyholders are so very close and personal that there is little of importance affecting the daily life and struggle of working people that fails to come to the knowledge of the intelligent observer who, week after week, calls on the same people for the purpose of collecting the weekly premiums. Their difficulties, trials, hardships and final successes are known to him; he is their friend and they are his friends, and he is often their adviser, counselor and aid in emergencies. Coming in such close contact with hundreds of thousands of our wage earners of all types and nationalities, engaged in every occupation, the industrial agent has opportunities for study and observation which fall to the lot of only the very few, and I cannot but think that in the light of this personal experience I may be pardoned for having at times expressed myself with exceptional emphasis in favor of the character of our industrial population and its struggle for economic independence. I am convinced that if those who think ill of the masses, and who see in their humble endeavors little deserving of praise and much to blame, would go and really live among the plain people, they would soon realize that beneath all of the apparent sordidness and selfishness there lies much nobility of effort and of aim. The more I have seen of working people, the more I have learned to respect their motives, their efforts and the results of their struggle, and the less, I acknowledge with shame, do I think of the efforts and results of those who, under vastly better conditions, with far greater opportunities, fall materially short of what, by a reasonable standard, we have a right to expect."

Social reformers typical of the propagandists for compulsory health insurance have not this knowledge of American wage earners, their aims and ideals, and their failures and successes in the struggle for life. There has been no genuine demand for compulsory health insurance such as would have been manifest if health insurance on a commercial scale were more widely developed in this country in response to an urgent need. Wage earners and their dependents have not authorized these propagandists to speak for them or make out a case. Broadly speaking, they desire to be left alone and to continue to manage their affairs in their own way and at their own cost. There is a tremendous force in wage earners' lives, to which neither Mr. Lapp nor any of his associates in the propaganda movement for compulsory health insurance have made reference—that is, the doctrine of self-help. Ours would not be the country that it is were it not for the determined struggle which wage earners make to change their condition from one of comfort to comparative prosperity. Sickness, it is true, at times falls with crushing force on the individual, and occasionally, no doubt, mars a lifetime of honest effort. But in this respect sickness is but one of the numerous calamities of life, which, to guard against, other means exist than compulsory health insurance, and in my judgment, means far more effective in the long run. Most of the illness of wage earners is of very short duration and of practically no social or economic importance. With our relatively high average wages the economic burden of even a farly serious illness is comparatively light. The credit function in America is much more extensive than abroad. Every physician has large amounts outstanding in bills which represent wage earners' illnesses for which no payment was ever made. That may not be good business for the doctor, but it has become a customary practice to extend medical credit to those who are ill, without any thought as to whether or not the bill will ever be paid.

The subject, unfortunately, is very large and involved, and only certain aspects can be referred to on an occasion like the present. The report of the Ohio Health and Old Age Insurance Commission has not yet been published, but I have been given the privilege of reading in advance the summary of findings and recommendations, which I have gone over with unusual care. I had hoped that Mr. Lapp would present clearly the evidence collected by his commission, and since the commission is in favor of compulsory health insurance, he should present the proof in support of the argument, and the evidence derived from Ohio data to the effect that such a system is imperatively called for by the needs of the local situation. The summary of findings and recommendations gives no evidence of such conclusive proof as would be required. Anyone, of course, can make out a case on the basis of exceptional individual instances.

The summary of findings and recommendations begins with the subject of child welfare. I have been deeply interested in this question for many years, but I find it difficult to reconcile any arguments with reference thereto with arguments in favor of the establishment of compulsory health insurance. If "statistics of child vitality disclose an unsatisfactory condition," the remedy clearly lies in the direction of a better method of physical examination and medical inspection in schools, and of children of pre-school age through a properly organized and well-sustained child welfare commission. There is no need for compulsory health insurance to concern itself with questions of this kind, and in no country in the world where social insurance exists is child welfare the corner stone of the system or a matter of more serious concern than with us.

If the child death rate of Ohio is excessive (and it is not) the lowering of the rate is evidently and clearly within the duty of the local or state board of health. A compulsory health insurance system is not required to bring about reforms in this direction. If "there are forty counties in Ohio where there is no public health nursing work," and if "in many of the others only one nurse is provided," the remedy for this unsatisfactory condition is evidently an aroused public appreciation of the value of a well-organized public health nursing service. Compulsory health insurance being primarily concerned with the health or sickness of adult wage earners, is only incidentally concerned with the extension of public health nursing, which, it may be said, has been more highly developed in this country, without social insurance, than in any other in which social insurance is universal or compulsory, as the case may be.

The report contains some brief observations on "national vitality," derived from general sources, but apparently the commission did not make a full and critical analysis of the vital statistics of Ohio, or concern itself with the large amount of available data on the subject for the large cities of Ohio, which would have yielded most interesting and practically useful results. For a state commission on health and health insurance to fail in this respect is obviously evidence of a strong bias in other directions, since the report of the commission itself is a document of over four hundred pages. It would seem that any argument in favor of compulsory health insurance for the wage earners of the state of Ohio should rest largely, if not exclusively, on ascertained facts concerning the health of the people of the state as derived from official sources, but apparently these sources of information were grossly neglected by the members of the commission, who gave the preference to elaborate appendices prepared by partisan writers on compulsory health insurance, such as John R. Commons, Edith Abbott, Henry J. Harris, Emery R. Hayhurst, etc. No secondary evidence of this character, no mere expression of opinion, can take the place of ascertained facts derived from official sources and conveniently available through the official statistics of the state. In this respect the states of Wisconsin and Connecticut have set a worthy example in that the reports of the two social insurance commissions of these states, adverse to the adoption of compulsory health insurance, rely in their arguments largely upon the basis of the ascertained and known health conditions of the states, past and present.

Three parties are referred to as being more or less guilty for a condition alleged to be unsatisfactory but not shown to be such by indisputable evidence derived from official sources. The three parties are society at large, employers of labor and employees. The cost of the system, enormous as it will be, is therefore arbitrarily assessed under the proposed bill on the community to the extent of one fifth, and the employer and employees, respectively, two fifths although no evidence is advanced to prove that any one of the parties concerned is responsible for wage earners in the proportions stated.

Nothing could be more arbitrary or inequitable than to assess two fifths of the cost on the employer, who, broadly speaking, has nothing whatever to do with the employee's illness. Most of the sickness is due to infections which are largely matters of community concern or in consequence of the neglect of personal hygiene and rightful personal habits which are obviously matters of individual concern. The only material exception to this conclusion is a relatively small group of strictly occupational diseases or of injuries sustained in the course of the employment, though not legally within the definition of industrial accidents and therefore subject to workmen's compensation laws. In Ohio no provision is made for compensation on account of occupational diseases, although the injustice of this neglect is recognized by all who have given the question serious concern. As far as my information enables me to judge, there is no reference whatever to occupational diseases in the report of the Ohio commission, and certainly not in the summary of findings and recommendations. To ignore an obvious and practically important phase of the labor problem in a discussion of this kind is so much more regrettable when extended consideration is given in the report to such subjects as maternity insurance and old-age pensions, which, at best, are matters of secondary consideration. There was clearly an indifference to the real needs of wage earners and their dependents, and an obvious preference for academic discussions, chiefly based on so-called foreign "experience" and foreign sources of information.

In my judgment, it was the duty of the commission to inquire into the subject of compensation for industrial diseases, to ascertain their relative frequency, and to make specific recommendations with reference thereto, as this has been done in so admirable a manner by the Connecticut Commission on Public Welfare, the recent report of which recommends that "Any disease arising out of and in the course of employment should in our opinion be within the provisions of the compensation law, and we believe that the experience acquired in the administration of the compensation law, supplemented by what has been reported to the Commissioner of the Bureau of Labor Statistics, will justify this state in following the example of the British Parliament and the Parliament of Ontario by extending the benefits under the Workmen's Compensation Law to disabilities resulting from occupational diseases." We have here a fair and just recommendation made by a commission not under the pernicious influence of German ideas, in accordance with which the wage earner is to be legislated for from above as mere chattel, to the end that he may be made subject to a system of compulsion and coercion little short of physical slavery. The question of elementary justice vitally concerning the wage earner and his dependents is completely ignored in the report of the Ohio commission, although a place is given in the report to an extended academic discussion on the health insurance movement in the United States, by John R. Commons, and to sickness insurance in Germany, by Henry J. Harris, neither of which has any practical value in that they are not based upon a discriminating analysis of actual facts but merely represent individual opinion strongly under the influence of a bias in favor of a compulsory plan.

There is a serious menace to the public in the unceasing stream of partisan propaganda publications, many of which are put forward by men in responsible positions in colleges and universities, although filled with misleading statements and false assertions readily contradicted by an appeal to the facts. The public has a right to be protected against false assertions on the part of those in authority and in a position to know. Thus, for illustration, the Federal Board for Vocational Education has recently issued a monograph on "The Practice of Medicine as a Vocation," in which it is stated that "the work of the physician is twofold; it is his duty to cure those who are sick, and to keep the well from becoming sick." The physician is under no duty to keep anyone well, and, broadly speaking, our medical training is not in the direction of teaching the art of prevention in illness, but chiefly, if not exclusively, for the purpose of teaching methods of cure. It is a serious fallacy to teach that "the physician is the guardian of the public health." The physician is not responsible for any condition of public health but merely for the condition of the patient who consults him and takes his advice. To confuse medicine as a healing art with public hygiene is a serious error, which, if persisted in, will result in harmful consequences to a profession entitled to the highest regard on the part of the public.

Even more mischievous and far-reaching is an audacious attempt to force foreign ideas concerning compulsory health insurance upon the children in American schools, through the United States Bureau of Education, which has recently issued two publications on "Lessons in Community and National Life," including a lesson on social insurance, contributed by John B. Andrews, the secretary of the American Association for Labor Legislation, and for a number of years actively engaged in making propaganda for this form of insurance in the United States. It is difficult to understand how any government department can lend itself to the furtherance of such propaganda, most of all when every state in the Union in which, thus far, there has been an opportunity for the people to decide, has voted against the proposal to establish compulsory health insurance in any one of its various forms. In California, where the people were given an opportunity to vote upon the question, as included in a group of constitutional amendments, the vote for the health insurance amendment was only 133,858. While the vote against the amentment was 358,324, or in the ratio of 1 for to 2.6 against. Therefore, for the United States Bureau of Education to give furtherance to misleading assertions and obvious fallacies, on social insurance, in aid of the propaganda for compulsory health insurance, by including a lesson on the subject in a series of publications on "Lessons in Community and National Life," must be considered ultra vires, or contrary to public policy. To apparently give the endorsement of the government to wrongful foreign views, strongly opposed by the American public, as made evident by the fact that in every state in which compulsory health insurance legislation has been introduced the vote has been adverse to its adoption, and that every constitutional convention which has deliberated upon the subject has voted adversely to the inclusion of the system within the legitimate plan and scope of governmental activities, is clearly a misuse of governmental authority which should be taken cognizance of by Congress and dealt with accordingly.

Compulsory health insurance had its origin in Germany more than forty years ago. It was introduced for the purpose of defeating the plans and projects of the socialist party, which at that time cast a vote of about half a million. Forty years later, or near the outbreak of the war, the socialistic vote in Germany had increased to 4,500,000, and when the armistice was signed it was a socialist who was the chairman of the commission. It was a wrongful method of the German government to delude the German people into the belief that the improvement in labor conditons could be brought about by social insurance instead of by legislation attacking the evil at its source.

Our standard of labor and wage earners' life is the highest in the world. Our health conditions are better than those of any other country. Our sanitary progress during the last forty years compares most favorably with the corresponding progress of any other nation. We are fully aware of further possibilities, and the progress of the future will unquestionably far outdistance the progress of the past. In the directions in which our health conditions can be made better, and in which wage earners' sickness can be diminished, we shall not fail to exert ourselves in the most vigorous and determined manner. But I, for one, cannot believe that America will ever consent to the establishment of a system of compulsion and coercion typical of the German mind. I cannot believe that American wage earners, of their own free will and accord, will deliberately establish class distinction, which, in course of time, may seriously impair the integrity of our democratic institutions. Class legislation of any kind is most objectionable, but never so much as when in the disguise of measures ostensibly intended to promote the interests of labor or of wage earners. The president of the American Federation of Labor, Mr. Samuel Gompers, than whom this country cannot boast of a more sturdy patriot in the defense of its rights, is bitterly opposed to compulsory health insurance. Most of those who are in favor of the system are socialists, determined only to bring about an ever larger amount of state enterprise and state activity, with the ultimate intention of completely socializing the modern state. The socialists, however, are grossly in error in their belief that by merely adopting a *different* state of affairs they produce a *better* condition of things. What is different may as easily be to the injury of those concerned as to their advantage. I, for one, am concerned only with what will make the conditions of labor better and sustain more effectively the American standard of life against the risk of a possible deterioration.

In my judgment, social insurance will impose enormous burdens upon labor and industry, without a just and adequate return. Some, of course, will derive benefits from such a system, but the many will suffer a distinct disadvantage. An enormous bureaucracy would come into existence, which would tend to restrict the liberties of wage earners and their dependents in matters heretofore considered exclusively of individual concern. The unnecessary increase in taxation, in some states at least, would be such as to involve the risk of bankruptcy. The cost will be as enormous as it will be unnecessary, and the chief beneficiaries will not be the industrious, hard-working, well-deserving wage earners, but the shiftless, the idlers, and those willing to impose upon the funds. The lamentable experience in Germany will repeat itself in this country, only, because of our political system, matters are likely to be worse. Those who propose this plan for adoption fail in their duty in not providing at least a tentative estimate of ultimate cost. The people have a right to know what the burdens will be which they are asked to assume. Nothing could be worse than the misstatement of the facts, at least by implication, that the cost of the system will be substantially offset by its benefits. The burdens will be real and not a mere shifting of the incidence of taxation. The cost will have to be paid for largely by industry, for it is a foregone conclusion that, in course of time, benefits will be increased and provisons will be liberalized. The expenses of the system will form an element in the cost of production, and as such ultimately affect prices and international competition.

For thirty years or more Germany has missed no opportunity to advertise social insurance on any and every possible occasion. The late German Empire made elaborate exhibits of social insurance as recently as the St. Louis Exposition in 1904, and but for the war there would have been an exhibit of social insurance at the Panama-Pacific Exposition in San Francisco in 1915. Germany early realized the value of a persistent and cleverly managed propaganda. Germany was largely responsible for the inauguration of the International Association for Labor Legislation, of which the New York office by that name represents the American branch. Germany has always been active, if not directly instrumental, in promoting international congresses of social insurance. Her sole object has been to induce other countries with which she was in international competition to adopt the same system, so as to equalize the cost of production. German industry is obviously at a serious disadvantage as long as it has to carry the burden of social insurance alone. The social conditions in Germany are such that there is simply no comparison with our American standard of labor and life. The system may be adapted to a country in which class distinctions prevail, but it is utterly unsuitable to a true democracy which rests upon the fundamental principle of personal initiative, self-help and mutual aid.

It is proposed to bring into this scheme practically the entire medical profession, whose views have not been asked and whose wishes have not been considered. It is proposed to convert what is now a field of private enterprise into a state service, although such action, in every way, is as uncalled for as it is un-American. In brief, it is proposed to place the entire medical profession in bondage to the state and to make it subservient to considerations of political policy. Every country in which social insurance has been developed has experienced a distinct deterioration in the status of the medical profession because of discouragement of special ability. The chances for progress and real advancement are practically closed to the medical profession the moment compulsory health insurance becomes a fact. The tendency of panel doctors is to increase the number of names on their list, as the only method by which individual incomes can be made larger and sufficient for personal needs. There is no encouragement to perfection of special ability, which has been of such enormous value in the development of medicine as a healing art when conducted as a matter of private practice.

In England, medical practice has distinctly deteriorated under social insurance, and the average patient is given just sufficient time for a consultation, of no real or practical value to himself or the community. Serious cases are neglected and no provision has been made, or is ever likely to be made, for cases in which highly specialized and expensive skill is essential to a cure. The system, in brief, concerns itself chiefly with the mass of the people and their trivial ailments, but not the small minority who suffer from serious illnesses and who require the care of specialists. According to Brend, a recognized English authority, "The average time given to each patient was only three and one quarter minutes, one and one quarter of which was used in writing prescriptions, and the patients had to wait, on an average, two and a half hours before they could receive attention." According to the same authority, "In many towns one fifth of the doctors attend more than half the insured persons," and necessarily, "The immedate effect of an attempt to treat such large numbers is to encourage hasty and inefficient work."

In medicine a most valuable function is diagnosis. All diagnoses require time and care in the physical or other examination of the patient. Improvement in diagnosis is of the utmost importance in the furtherance of medical science as a healing art. Compulsory health insurance is clearly opposed to accuracy in diagnosis, or to thoroughness in the examination of the patient, with the result, as explained by Dr. Brend, in his book on "Health and the State," that "dissatisfaction with the panel system is widespread."

It has been said by Mr. Lapp and others that compulsory health insurance is not intended for the very poor, but all the arguments concerning the so-called incidence of sickness are drawn from the experience of charitable societies with the dependent poor. The average wage earner does not come within the reach of charitable associations since he is not an applicant for charitable aid. All experience under social insurance has conclusively shown, however, that the poorest poor are not effectively reached by the system. For those who are most in need of medical aid it is necessary to establish a state medical service without the taint of pauperism or poor relief. It is a deliberate deception on the part of those making propaganda for social insurance to emphasize the relief features, since no evidence has been forthcoming to prove that the question has been successfully solved as to how the poorest poor can be provided for under such a plan unless they make periodical contributions, which, of course, is frequently impossible.

For the same reasons, the use of the word "insurance" in connection with plans of this kind is seriously misleading. There is very little, if anything, of insurance in the strict sense of the term about a plan which, essentially, is one of modified poor relief. Our wage earners are entitled to know whether they are receiving benefits that they themselves have properly paid for in cooperation with others, or whether the system proposed is really one of poor relief in disguise. An efficient state medical service, granting as a matter of right a certain amount of medical attendance in behalf of the community, and as a community service, would be free from such an implication. There is much to be said in favor of a plan under which every one, whether rich or poor, would, as a matter of right, be entitled to proper medical care, and, most of all, to thoroughness in diagnosis as a prerequisite to an effective cure. In any event, the best medical care for the poorest poor is obtainable only through a state medical service free from the taint of pauperism or poor relief. Such a right might be granted on the ground that the community is interested in the preservation of human health and life, and that therefore the medical aid rendered rests upon the highest considerations of public service and public policy. Of course, extreme care would be necessary even in such a system, but there would be no serious difficulties, in my opinion, if the experience which has been had in certain British colonies and in the United States Army, may be relied upon as sufficient for the purpose. Certainly, such a state medical service would render all the assistance desired and without an elaborate and costly as well as burdensome bureaucratic machinery, inevitable under compulsory health insurance.

Neither is the question of cost, nor of medical service, made a matter of proper discussion in the report of the Ohio commission. There are some very brief references to sickness and economic distress, the losses from sickness, and the factors causing sickness, as well as an attempt to reply to the question as to who bears the burden of sickness, but no data have been forthcoming of real value, derived from the experience of Ohio wage earners and their dependents. No plan is proposed for a material improvement in the state health administration although the evidence itself is convincing that much could be done under a better method of sanitary organization. No statistics have been forthcoming as regards the average amount of sickness loss by Ohio wage earners, but the time-worn phrase is repeated that the "available statistics of sickness show that every worker loses an average of about nine days annually." If the nine days is a total loss in working time it would be much better to continue the present system, under which labor time lost penalizes, in part at least, the worker, with the constant inducement to return to work, than to establish the proposed system, under which a pecuniary inducement to absence from work is held out during absence on account of alleged sickness. While in individual cases the amounts paid may be small, in the aggregate the loss to industry in working time, and to the community in compensation paid, would be enormous.

It is argued that health insurance should provide against loss of wages, cost of medical care, and loss of working power, but since a waiting period is usually provided, an average payment of two thirds of a day's wages for five to seven days a week would not benefit the workman materially or relieve any possible economic distress, but would materially increase in the aggregate the cost of production. It is said that "a cash benefit should be given for an amount sufficient for the minimum necessities," but this is precisely in opposition to all the efforts of organized labor to so improve the standard of life that the wage earner will have more than a week's wages ahead and be able to take care of his own needs out of surplus earnings rather than out of benefits granted by the compulsory health insurance fund.

By holding out the pecuniary inducement to absence from work, compulsory health insurance clearly operates against the best interests of both employer and employee. Human nature is easily tempted to take advantage of opportunities for wrongful gains, and workmen are not above the risk of being misled in this direction. In Germany and England there has certainly been a large increase in malingering, or in wrongful absence from work, for the purpose of procuring cash payments under compulsory health insurance. In the words of Brend, whose book on "Health and the State" is one of the most illuminating contributions to the subject, "The fact that there is not a constant relation between sickness and capacity for work probably explains the apparently excessive amount of malingering among insured persons;" and he refers to the appointment of medical referees by some insurance committees to make inquiry, and who have "invariably found that a considerable proportion of the persons examined were not legally entitled to the benefit." He refers to the fact that during 1915, when unemployment was reduced to the minimum, sickness claims fell off to a remarkable extent. It has been the invariable experience in Germany that an increase of unemployment invariably coincides with a rise in the rate of alleged illness. The correlation, of course, is not real but only apparent. Unemployment is merely the means utilized to impose upon the funds.

It would, of course, be quite out of the question to fully discuss all the details of the plan proposed. European experience, to which reference is made in the Ohio report, is inconclusive because of the incapacity of the investigators to deal with the facts in detail. In my address on the "Failure of German Compulsory Health Insurance—A War Revelation," I have presented evidence derived from a careful study of the latest annual reports of German Sickness Funds, proving conclusively that a most alarming state of affairs exists at the present time. Commissions of inquiry which do not investigate but make propaganda for compulsory health insurance should be subjected to the most severe public criticism as being engaged in efforts contrary to the first principles of life in a democracy. In California, the propaganda efforts of the second Social Insurance Commission led to action on the part of the state treasurer, under which further payments for expenses were refused because of the charge that the law was not complied with. Likewise, reports of many other state commissions, except such as those of Wisconsin and Connecticut, are too much concerned with so-called foreign evidence, or with the views of so-called experts who are merely writers on the subject but not authorities entitled to be heard. The people of Ohio are rightfully entitled to a full statement of the facts regarding health conditions in the state, particularly as regards the wage-earning element of the population, but they are not in need of historical essays on the health insurance movement in the United States, on the history of health insurance in Serbia, Rumania, or

Russia, as the case may be. The rightful method of procedure is clearly indicated by the Wisconsin commission, the admirable report of which should be read by all who are seriously concerned with this question. The Wisconsin commission, although opposed to compulsory health insurance, submits eight specific recommendations, practically all concerned with the health improvement of the people of the state along lines continuing existing efforts on a broader and more effective scale.[1]

The health of the American people is probably superior to that of any other people in the world, but of course much remains to be done in matters of detail. It is only during recent years that we have given serious thought to the public aspects of personal hygiene. It is also only within the last fifteen years that the associated activities of health-promoting agencies have become effective. It was my privilege to have been one of the founders of the National Tuberculosis Association, the American Society for the Control of Cancer, the Safety Institute of America, and the National Safety Council, as well as the National Committee on Malaria. These movements are rendering an enormous amount of substantial benefit to the community. The results would be more satisfactory if larger funds were available to carry on the work. Much valuable time which could be devoted to better purposes is wasted in raising funds.

Life insurance companies are taking an active interest in the furtherance of health-promoting agencies and the admirable work of the American Public Health Association. They are doing their share to overcome the apathy and indifference on the part of the public in all that concerns the community interest in matters of personal hygiene and public health. The Ohio commission is apparently of the opinion that no improvements are necessary in the work of the Ohio State Board of Health. I, for one, do not share this view, for I am firmly of the opinion that federal and state agencies as well as local boards of health can very materially be improved in their activities, as emphasized in a recent address of mine on "A Plan for a More Effective Federal and State Health Administration," read before the American Public Health Association at the Chicago meeting in December of last year.

It is to the interest of the American people that health conditions, as far as practicable, should be materially improved. It is of the utmost social and economic importance that premature death should be avoided and that disease resistance should be increased. To obtain this object, I have suggested at least three new principles in my address, emphasizing (1) the urgency of physical examinations of children and young persons, and their medical supervision from the period of infancy to the age of majority; (2) the registration of at least all serious illnesses in private practice as a first prerequisite for a well coordinated federal and state health administration; and (3) the establishment of at least a restricted state medical service to meet the needs of wage earners and others without being even remotely suggestive of pauperism or poor relief. Of course, much more can be done and will be done. In the direction of wage-earners' insurance, I cannot but give the heartiest endorsements to the recommendations of the Wisconsin commission, which suggests, "that the State Insurance Department concern itself more actively with the supervision and control of voluntary insurance undertakings having for their object the pecuniary relief or medical attendance, or both, of wage earners during more or less prolonged periods of illness. It seems to us that a standardized plan of organization and procedure might be worked out under the direction of the insurance commissioner and recommended to the wage earners of the state, as well as to the employers of labor, for individual or collective adoption."

If the foregoing recommendations are carried into effect, and if the state initiates real health improvements, inclusive of both public and personal hygiene, and supplements the foregoing suggestions to the insurance department by a broad policy of encouragement of the principle of mutual aid in its special application to the multitude of insurance efforts of wage earners or labor organizations, as the case may be, the need for compulsory health insurance is happily eliminated in a republic in which the establishment of a system based upon German conceptions of government would be contrary to the aims and ideals which govern our wage earners in their struggle for a higher standard of life and living through the broadening principle of self-help.

DISCUSSION

ON PAPERS OF LAPP AND HOFFMAN

DR. PATTERSON: I am going to call on Dr. Alice Hamilton, a member of the Illinois commission, to open the discussion.

DR. ALICE HAMILTON, Washington, D. C.: Last February, Governor Lowden of Illinois appointed a commission to inquire into the question of health insurance and report on it, as to the legislation to be enacted by Illinois. We have been working on this ever since. Two representatives of the medical profession were on the commission, two representatives of labor, two of the Visiting Nurses' Association and a lawyer. A professor of the Illinois University was to undertake the supervision of the investigation. We thought that the whole thing depended on the settlement of the questions of how much sickness there is, what the agencies for preventing it are, what agencies there are for taking care of it, and how much sickness results in poverty. We have not had our final meeting, or even formulated our recommendations to take to the governor. One of us has had his mind made up throughout. I am not sure that all have made up their minds yet, but I have made up mine.

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[1] See Spectator, April 17, 1919, for a brief review of the report of the Wisconsin committee.

I went into the question without any ability to form an opinion, but I now know that some form of health insurance is needed in Illinois. We have found that there is far more sickness among the poor and the fairly well-to-do wage earners than we had supposed. We have found that we do not take care of that sickness as we should, and that the means of doing so are not in existence in Illinois. We have found that a large number go unattended until the sickness becomes chronic and they become disabled because of lack of attention. Most of them have very poor medical service. We have found that in most cases this sickness is at the root of poverty.

I do not know anything about the principles of insurance, and shall not venture close enough to Dr. Hoffman's domain to say what form of insurance we should have. I cannot see his objections to it, however. It amazed me to hear him say that industry is not responsible for sickness, and that the individual is; for Dr. Hoffman was the one who first interested me in the subject by the perfectly wonderful figures that he showed at the Tuberculosis Congress at Washington in 1910. I do not know how he can explain his attitude on the question. I do not understand his attack on the subject as being of German origin. Many other things that are good are. Where do we go for most of our knowledge on the subject, but to Germany? What difference does it make? We are very much nearer to England, which has been experimenting with it; and we know that after experiments carried on under the greatest difficulty, England is not ready to dismiss it, but to extend it. Even the physicians who were against it at first, and quite rightly, are for it now. As for its enslaving the worker or the physician, I do not think that we need worry about that. The amount of independence of spirit that a man has who has been laboring under the load of sickness and poverty is negligible. There is none. I cannot see how a system of state medical service would leave him any more independent than a system of health insurance.

At the present moment, I do know that we are not dealing with the sickness of the wage earner. We are not taking care of him or putting him back on his feet. When a man asks for fire insurance, you do not say, "Go and have fire prevention." That would be nonsense. We have to have both. It is true that the two things are distinct. Health insurance is designed to give proper care to the sick person and save his dependents from incapacitating poverty; and if, incidentally, it brings better disease prevention, then let it come. But that is incidental merely.

Dr. Patterson: Ladies and gentlemen, this subject is open for general discussion. Its importance cannot be overstated.

Dr. A. W. Colcord, Clairton: I wish to ask some questions on the subject and I wish that Mr. Lapp, in closing, would answer. I believe that every doctor here has in his mind a list of questions that are similar to mine. We want to know more about the subject before we can decide whether we favor it or not.

1. How are the doctors to do the work chosen? Are all doctors in the community to work, or only a portion? If only a portion, which ones?

2. How are they to be paid? By the year, by the patient, or by the job, and how much? Is there a prospect that this amount of pay will measure up somewhat to the present rate at which doctors are paid for similar work, or is it a scheme to cheapen the service of the physician? I am not asserting this; I am only asking.

3. How does the patient choose his doctor? Is he allowed to have any choice in the matter? Is the present family doctor to go out of existence, or is he not? The family physician is a matter of choice. The family chooses the doctor, and the doctor chooses the family. It is a happy combination. Is that to go on or to stop?

4. How is the question of specialty to be handled? When a man is to be operated on, is he to take the cheap man or the best, and if the latter, who pays the surgeon, and how? How is a man to get his eyes treated, or his ears, or any other part of the body that comes under the domain of the specialist? How are the specialists chosen?

5. How about the man who wants an osteopath, a chiropractor, or a Christian Scientist? Is he to have it, and who pays the bill, and how?

6. Is there a bill to be presented before the legislature? If so, who is engineering it, and how are we to get at him and influence his mind?

Dr. Patterson: I can answer some of Dr. Colcord's questions. There is no bill before the legislature. The only bill before it is the one to continue the investigations of the commission named two years ago, whose report should be available and ready for distribution as soon as it comes from the state printer.

Richard V. Farley, Pennsylvania Department of Labor and Industry, Philadelphia: I agree with the doctor. Being a member of organized labor, I am not speaking for the great group of organized labor, when I speak these sentiments. I, personally, am opposed to health insurance for the workman, because of the fact that I believe that there should be instilled into the workers some thought of independence; and that, by creating a health insurance for the worker, you take away from him that which I think is most sacred; that is, his independence. Now the organization of which I am a member has three very strong points; first, arbitration and mediation; second, old age pensions; and third, a mortuary fund, which is contributed by the workers from their salary, a pro rata share each month. I do not know what the vast majority of the workers in Pennsylvania think regarding a health insurance proposition; asking the employer to pay his part; the worker, his share; and the state, its share. I agree with the doctor in regard to some points, particularly where he said that the worker might be a little tired, and the health insurance coming in would be very soft for him; and that he would take a few days off. Those are some of the points that I should not like to have creep into our organization.

There may be a number of others whose minds may run in the same channel as mine. Were I to vote on the referendum proposition in either of the unions of which I am a member, the International Typographical Union or the Philadelphia Typographical Union No. 2, or were I to vote as a citizen of Pennsylvania on the question of health insurance, I should not only vote against it, but also raise my voice in opposition to it.

From the Floor: One thing I wish to know is, what will become of the men while the cost is being distributed. I have been for three weeks physician for a plant, where I take care of the workmen who are sick, and also their families. Some people there can get me for nothing, but will pay someone else, because he has been their family physician for years. They would do the same on the insurance business. There would be dissatisfaction, and they might not like my voice or me, although they get my services for nothing. A lot of these people will not call on me at all. They have a right to go outside, and they do it.

From the Floor: A doctor from Toledo spoke this morning. I am from Ohio also, and I rise to endorse what Dr. Hoffman has said. I wonder whether those in favor of health insurance have spent any time under a social insurance plan. I spent some years with a glass company which had worked out a semi-social insurance; and the men had all the ills that flesh is heir to. It was also peculiar, as Prof. Ochsner brings out in his article on "Health Insurance," how many men were ill. In a university in Minnesota they had seven thousand sick calls as against one thousand formerly, when they did not have health insurance. I have been called to go ten or fifteen miles on a bicycle, when we did not have automobiles, only to find no one at home; I did not think that right. When a man contracts gonorrhea and syphilis by his loose morals, I do not think it is fair to tax the clean, honorable gentleman for the other fellow. In endorsement of what Dr. Hoffman has said, I would state that I spent three years in Germany. I think that every man has the inherent right to pick his own doctor. This profession is founded a great deal on the element of confidence, and each man has confidence in his family physician. I should hate to see the family physician pass away. During my three years in Germany, I talked with many of the noted professors. I want you to think of how many noted authorities have come from Germany in the last few years. The only one that I can think of is Ehrlich, with his "606."

From the Floor: I do not wish to discuss the merits of industrial insurance, but I want to protest against the statement of Dr. Hoffman that it is not the duty, the highest duty, of a physician to prevent disease.

Dr. Melville A. Hays, New York State Industrial Commission, New York City: How long will it be before you have no medical profession under this system? What induces a man to study medicine? If his patients are parceled out and he is told what his pay will be, there will be no advancement at all.

Dr. Jackson Taylor, Lukens Steel Company, Coatesville: I have heard at various times the discussion of the health insurance question in relation to the working man but up until the present time I have not heard any discussion of the relation of the health insurance question to the doctor and how it will affect his income.

Dr. H. P. Hourigan, Buffalo, N. Y.: A month ago the Academy of Medicine of Buffalo, N. Y., held a meeting for the purpose of discussing the Davenport Health Insurance Bill then before the Senate at Albany. After a prolonged discussion, with everybody condemning the bill, a form of agreement was passed around and those who signed, and this included everybody present, took upon themselves not to enter the panel of physicians giving service under health insurance and not to have anything to do with any health insurance measure passed by the state legislature. If everybody practicing medicine in this country signed that agreement and lived up to it, health insurance would die a-borning. Yet, notwithstanding the fact that the physician is so essential, you will find the health insurance propagandists never mention the physician's fee when advocating this, their own special income-bearing propaganda.

You have heard Mr. Lapp, the gentleman from Ohio, advocating health insurance, asked five questions in an attempt to nail him down to a fair fee for physicians. Notwithstanding the fact that this meeting is composed almost purely of over two hundred physicians, and notwithstanding, according to Mr. Lapp's own statement, he has made a three hundred and fifty page report on "Health Insurance in the State of Ohio," he displays the weakness common to all advocates of this measure, a perfect innocence of interest in the physician's income.

Dr. Patterson: The subject is still open for discussion. If there is no further discussion, I will call on Dr. Hoffman, and finally on Mr. Lapp, to close the discussion.

Dr. Hoffman, closing: Dr. Hamilton has reminded me of a serious omission in my address. She properly referred to my views on the subject of occupational diseases. On numerous occasions I have tried to emphasize publicly the importance of adequate compensation for occupational injuries. There is a vast difference between industrial responsibility for occupational diseases and for diseases in general. I am strongly in favor of adequate compensation for such diseases in conformity to the principles which apply to workmen's compensation law. If a workman contracts tuberculosis in the pursuit of his vocation there are numerous reasons why he should be promptly and liberally compensated for the economic loss which he has sustained. If there is one neglected phase of workmen's compensation it is this, and as I have had occasion very briefly to say, no reference to the subject is made by the Ohio commission, although it is unquestionably one of the most important in our labor legislation of the present time. Occupational diseases are not compensated for in all but two or three of our states, Massachusetts and California, and, I am pleased to say, the territory of Hawaii. It is unjust not to recognize that a man injured by disease in the course of his employment is as much entitled to compensation as one injured by an accident in the legal definition of a "fortuitous event." Practically all social insurance commissions except those of Wisconsin and Connecticut have given inadequate attention to this important aspect of the question under consideration. The recommendation of the Wisconsin commission reads: "We are of the opinion that occupational diseases should be included in the Workmen's Compensation Act and recommend that proper legislation to this end be enacted."

As I had occasion to say in my plea for a more effective federal and state health administration at the annual meeting of the American Public Health Association in December of last year, "In curious opposition to its earlier interest in the reporting of and compensation for occupational diseases the American Association for Labor Legislation now minimizes the urgency of legislative action on the ground that such compensation can adequately be provided for only through compulsory health insurance. The insincerity of this change in viewpoint is obvious. The present injustice for noncompensation for occupational diseases is not remedied by the promise held out that, some time in the future, compulsory health insurance may come into existence. Whether occupational diseases in the legal sense are rare or frequent is quite immaterial, as emphasized in the arguments in favor of federal legislation prohibiting the manufacture of poisonous matches. The small number of deaths resulting from phosphorus necrosis was not a proper argument against the justice and expediency of such legislation. The reason why the American Association for Labor Legislation now makes light of occupational disease compensation is because if such compensation were to become universal no argument whatever would remain for the wrongful proposition that industry should be charged to the extent of two-fifths with the burden of compulsory health insurance for sickness not directly or specifically attributable to occupational activities." There should, therefore, be no misunderstanding as to my hearty endorsement of any and all efforts in behalf of the adoption of laws providing for adequate compensation in the event of all injuries, whether caused by industrial accidents or industrial diseases, as the case may be. I have no objection to placing any burden on industry that properly should be placed there, but I am strongly opposed to unjustly hindering American industrial enterprise by the imposition of burdens obviously in favor of Germany and other countries with whom we are, or will be, in active and serious international competition.

Dr. Hamilton makes light of my argument that this propaganda had its origin in Germany and is fostered by German thought. As I had occasion to say, Germany has missed no opportunity to advertise to the utmost her system of social insurance, but always in general terms and never with reference to specific facts. One of the last official acts of the Imperial Chancellor before the signing of the armistice, on October 6, 1918, was to propose that at the peace negotiations "the German Government will use its efforts to the end that the treaties shall contain provisions concerning the protection of labor and insurance of laborers," etc., all of which is not to be construed as evidence of a sincere interest in the welfare of labor, but, quite to the contrary, the principal consideration was the relation of social insurance to the cost of production in Germany's future struggle for existence as governed by international competition.

I may say in this connection that the German propaganda for the adoption of social insurance was carried into Belgium during the most trying days of the war, and an exhibition of compulsory health insurance was arranged for in Brussels, at which leaflets were distributed in the German, French and Flemish languages, illustrating the alleged benefits to working people resulting from the adoption of social insurance in all its branches. The exhibition was at its height, and the last interview of the director of the German Insurance Office with the German Military Governor of Belgium was within a day or two before the execution of Edith Cavell. It is therefore entirely right and proper to speak of this propaganda as being made in Germany, fostered and sustained by German thought and German ideas, and as opposed to American thought and American convictions, which must needs view any effort to establish in this country a system based on coercion and compulsion as un-American and contrary to a democratic form of government.

I am at a loss to understand the methods of earnest and well-meaning social reformers who, in vain, try to find ways to advance the interests of those whose past progress rests exclusively upon the principle of self-help and mutual aid. They are not aiming with sufficient emphasis at the root of the evil and they are not properly concerned with methods of reform which will do away with the causes which give rise to the conditions as to which social insurance is but one of the means for providing more or less adequate relief. For myself, I want to do away entirely with bad housing, and I most heartily endorse the recommendation of the Wisconsin commission, who observe in their report that "While our investigations have not disclosed very serious deficiencies in the housing of our wage earners, we are of the opinion, nevertheless, that the legislature should provide for the adoption of a comprehensive housing plan adapted to the future needs of our growing industrial population. The relation of ill health to unsanitary methods of housing is so clearly established that it requires no arguments to reemphasize the urgency of this recommendation by an appeal to the facts, which are understood by all who have given the matter serious consideration." I am in favor of radical reforms where radical measures are called for. The old English poor law was adopted in 1601, but its pernicious influence still continues to blight the English people although material reforms were carried into effect in 1834, which if not adopted would have meant the moral and physical ruin of the English working people.

According to Dr. Hamilton, English physicians are not advocating the repeal of the National Health Insurance Act. It would be to no purpose for them to agitate the question, since the early repeal of the act as a political measure is practically out of the question. Anyone familiar with the subject knows that the insurance institutions or societies brought into exstence under the act, or taken over, are probably n many cases insolvent. Although provision was made in the original act for an early valuation, no official valuation of assets and liabilities actuarilly determined has ever been made by Parliament, for fear that the disclosures would startle the nation and lead to material modifications in the plan. It may not be out of place for me to quote the words of Brend, whose book on "Health and the State" I have previously referred to as one of the most useful contributions on the subject, that although the National Insurance Act directly affected a vast number of persons and involved enormous expenditures, etc., and demands upon administration, "no previous measure has ever failed so signally in its primary object," for, it is said, "probably the greatest obstacle to the development of a sound and comprehensive scheme for protecting the health of the community has been the failure of legislators to appreciate the complexities and difficulties of the question with which they were dealing." And further, "Health legislation in Parliament has always suffered from the almost complete absence of scientific medical criticism, and the Insurance Act was no exception to this rule. In its genesis, in its modifications in the House of Commons, and very largely in its subsequent administration, it has been the work of amateurs, and it contains in consequence the most glaring blunders." Brend frankly concedes the German origin of the British Insurance Act in the words, "There was no Royal Commission or Departmental Committee to investigate the value of national insurance, nor was any public report or opinion obtained from the General Medical Council, the Royal College of Surgeons, the Royal College of Physicians, the Society of Medical Officers of Health, or other bodies concerned with public health questions. . . . There is little doubt that if a Royal Commission had been appointed to inquire into the state of public health and the steps necessary to improve it, a very different measure would have been introduced, possibly without including national insurance at all."

As regards the German origin of the act, it is said that "Mr. Lloyd George appears to have been strongly impressed by the national insurance scheme in Germany, and it is understood that during 1910 he spent some weeks in that country studying the system. At that time we were obsessed by belief in German science, forethought, and organization, and it would be unfair to condemn imitation of German methods merely because our views of the German national character have since undergone a radical change. But the German system. could not have been condemned at that time and on its merits. Mr. Lloyd George's investigation must have been very superficial, for closer study of conditions in Germany would have shown that in that country national insurance, from the public health point of view, had been a failure just as great as it has since proved in our own."

In my address before the Association of Life Insurance Presidents I have dealt in detail with the failure of the German system, and the evidence there presented is official and conclusive for the time being. Those who are still so strongly under the influence of German thought are not clear in their judgment. The establishment of such a system is not difficult but its termination or abrogation is extremely so. Social insurance in Germany, as well as in England, has become interwoven with the very life of the people to the same extent as the old English poor law became the hindrance of vast numbers of English people in their struggle for social and economic independence.

Dr. Hamilton, with her thorough knowledge of the poor, in Chicago at least, and of industrial conditions throughout the country, could well contribute something substantial to the question as to why the poor do not have better medical attendance and how it will be possible under compulsory health insurance to provide the poorest poor with such insurance, when the effort has not been successful in either England or Germany, as far as our official information enables us to judge. I am much more interested in the poorest poor in connection with this matter than I am concerned with our wage earners, or even the moderately well-to-do. But someone unquestionably will come forward with a workable plan of reform and suggest a system under which not only the poorest poor, but all in need thereof, can obtain proper medical attendance, and most of all the required skilful advice in matters of diagnosis. In England, according to Dr. Hugh Thursfield, of St. Bartholomew's Hospital, in the case of "a large number of children who have been certified as the subject of pulmonary tuberculosis"—"in at least two thirds of the cases there was no evidence whatever of the existence of the disease"; and according to Sir Arthur Newsholme, "After making full allowance for the varying extent to which practitioners examine sputa for themselves, or have them examined in private laboratories, there can, I think, be no doubt that this aid to the diagnosis of tuberculosis is greatly neglected in a large portion of the country." In contrast, the diagnoses made generally in this country are much more trustworthy, and frequently conclusive, although anyone must concede that we have not made the advances in this direction called for by the importance of the subject and the interests of the patients concerned. There is no hope, in my judgment, of an improvement in medical diagnosis under compulsory health insurance, but, quite to the contrary, I firmly believe that the vast majority of cases will be less skilfully diagnosed than is now the case in private practice.

I agree entirely with the gentleman who spoke of the demands of organized labor. This country has grown wealthy and powerful and become a greater republic, with a broader sense of independence and individual thrift, than any other civilized country in the world. Wage-earners' thrift is another neglected phase of the wage-earners' problem not adequately dealt with, if at all, in the final report of the Ohio commission. The fact is overlooked, that what people do in their own way and at their own cost makes for character, in contrast to the pauperizing effect of much that is done for them, most of all in the name of so-called compulsory health insurance. There is always the audacious individual who believes that he can solve the problems of other men, when he has not succeeded in solving those which concern himself. The struggle which organized labor has made in this country for a higher standard of life and for its maintenance, even under war conditions, is one of the finest tributes to Mr. Samuel Gompers and his associates, as evidence of his eminent fitness for leadership.

Mr. Lapp referred briefly to the danger of paternalism. The greatest danger is inherent in the adoption of a system of compulsory health insurance which will establish class distinction and differentiate those who are beneficiaries of the system from those who are not. The problem is becoming a most serious one in this country. Unquestionably the tendencies to socialism, communism and anarchism are being preached and fostered by men of misguided intelligence who, as previously said, believe that a different state of affairs is equivalent to a better state. Our federal power has grown enormously and in a multitude of directions. From state compulsory insurance to federal compulsory insurance is only a step, but one which will certainly be taken in due course of time. We have no concern with the fact that Germany has made numerous and great contributions to industrial hygiene and to certain phases of the labor problem. We are concerned only with the insidiousness of the German propaganda, which would give furtherance to the plan for compulsory health insurance neither called for by the interests of labor nor of industry, nor of both combined. The insidiousness of the German propaganda is so much more a menace to our American institutions because, unconsciously, it affects the minds of those wishing to give aid and encouragement to any action which they believe is likely to benefit the mass of the people. The information derived from German sources requires to be dealt with in the light of recent events. All German official accounts are more or less open to the suspicion of a strong bias opposed to our own interests. With all the emphasis that I can put into words, and speaking as one who is thoroughly familiar with the German language and with German habits of thought, I warn you against the menace of the German idea which is seeking lodgment in the American mind, to the ultimate detriment of our democratic ideals and our republican form of government.

Mr. Lapp, closing: I was aware of the fact that probably Dr. Hoffman would try to prove that three and three are six, and that is why I brought the matter up in the beginning. He did prove a number of these things. For instance, he talked about poverty, which we are not discussing here. We are talking of the working man. We will talk of poverty and the almshouse at another time. We are concerned here with the prevention of poverty only.

I had not planned, as you must have observed in my first address, to make remarks in any sense personal. I had known what Dr. Hoffman was going to say about the Ohio report, because he said the same things in Ohio a few days ago.

Now, as to the Ohio report: I was wondering how Dr. Hoffman secured a copy of the Ohio report. I have not seen it for it is still in the hands of the printer. I have a page proof of the middle part of it, but he has not seen it. A brief summary has been issued which he has apparently not even read. When the report comes out, send for it and read it. I am not going to defend it here. Read and judge for yourselves. I have studied the question, not quite so long as Dr. Hoffman—although I do not think that he has been considering it with care for the last ten years, but I have been doing something in this line for the last ten years. All I expect is to let my work be judged by the people who read it. Since Dr. Hoffman has indulged in personalities, I feel entirely free to make some reference to him. He spent a great part of his address in proving that health insurance is a German institution, propagated for vicious reasons, but his views have not always been the ones he indulges in today. In 1910 Dr. Hoffman, just back from a study in Germany, said the following to the Massachusetts Commission on Old Age Pensions: "There is much discontent with the administration of the insurance laws, but the system itself is so well thought of that repeal of the laws is out of the question. A reform of the system is demanded, not only by the social democrats, but also by the government; and a plan has been prepared which may be considered by the present Parliament. . . . Even the best informed admit that a really definite and conclusive answer to many questions is practically impossible, but there is no dissenting opinion, even on the part of life insurance managers, that government insurance has resulted in far-reaching reforms, that it has been of vast benefit to the people and to the nation at large, and that it has come to stay. . . .

"The interests of capital and labor have certainly been harmonized remarkably in Germany; and, speaking from personal observation extending over a generation, the contrast of today with the past is truly marvelous. How far government insurance has had a share in this progress, it is, of course, impossible to say; but all with whom I have discussed the subject are of but one mind, that the effect, on the whole, has been decidedly for good. It is admitted that the system has not brought industrial peace, and that the Socialists were never so powerful as they are today. It is conceded that there is much complaint and much discontent, but the evidence otherwise is superabundant that the skilled German workman in the large cities is decidedly well off in a material way; that he is well housed, well fed and on the whole, well paid. German industry, however, is not so prosperous as it has been; and it feels the burden of government insurance, and dreads the danger of still heavier burdens of increased taxation, resulting from the proposed reform in German finances and the proposed reform in the government insurance system. From the point of view of the employer of labor, it is a most serious risk to assume this tremendous burden; and, in the words of Dr. Zacher, if one has said 'A' in this matter, one must say 'B,' 'C,' 'D,' etc. That means, in other words, in time the system will be made to include unemployment insurance, widows' and orphans' pensions, and pensions or annuities for officials of semipublic corporations; and in all of this agitation, there is one unmistakable note, and that is that whoever pays the additional cost, it is not to be the beneficiary, or, in other words, the workman; and such a doctrine, of course, in the end, is destructive of every principle of self-reliance and self-help.

"But it is argued that it is not the primary intent of the insurance system to reach these classes, but, rather, to conserve the economic resources of the real wage-earning element in industry, and to keep this element from becoming a burden upon charity in sickness, accident or old age, rather than to lift the very poor and paupers out of their poverty."

You see that Dr. Hoffman did not always believe as he does today regarding social insurance. I have read that at length, because it expresses what Dr. Hoffman believed eight years ago. It does not indicate that there was at that time such a serious condition of affairs in Germany growing out of social insurance as he has pointed out today.

Another thing is the frightful extent of malingering on the funds in Germany. At your conference last year, Dr. Hoffman said that the extent of malingering was greatly exaggerated, or words to that effect.

Dr. Hoffman: What has the American to do with the German?

Mr. Lapp: That is not the question. You declared that this was a piece of German propaganda insidiously promoted.

Dr. Hoffman: That statement has been quoted a number of times for the apparent purpose of proving a flat contradiction. If you read the statement carefully, however, you will agree that there is nothing contradictory at all. It is a fair and honest account of what I observed at the time of my visit to Germany, and particularly to the Krupp plant at Essen. I have never attempted to disguise the fact that social insurance was of considerable material benefit to the German people at that particular period, but I was limited in my opportunities and possibly under the influence of the German mind and German thought. The moral consequences of social insurance had not, at that time, been forced upon my mind, nor had I subjected the reports of individual institutions to critical analysis, nor could I, of course, have the knowledge of the lamentable experience which has been had under conditions of war. Even though social insurance may be adapted to the needs of the German people, it is still my firm conviction that it is not required for the needs of the American people.

Mr. Lapp: You have recanted what is in the statement?

Dr. Hoffman: Not at all.

Mr. Lapp: The statement as read stands then as Dr. Hoffman's view, eight years ago, on this question, after the system had been in operation nearly thirty years. Such statements as these are strange to us who have followed Dr. Hoffman's writing. Up to two years ago I supposed that he was in favor of social insurance.

He speaks about the terrible condition of medical and dispensary practice in England but does not stop to tell you that these conditions prevailed before health insurance was adopted. Webb's description of medical practice, in his book, "The State and the Doctor," written in 1910, shows that the conditions existed for many years. Probably there are weaknesses yet, but observers say that the conditions are better than in the old times. That is saying a great deal, when we consider that health insurance was started just before the war.

Now as to occupational diseases so-called: they will not amount to enough to make it necessary to raise the insurance rates. In California the Workmen's Compensation Act included occupational diseases. Practically all of the cases compensated last year were of people who picked hops and got an itch, which lasted about ten days. In Ohio, possibly, 1,500 or 2,000 cases would be compensated under the same law as California, but that is but a drop in the bucket in taking care of sickness.

Again, the question of the cost—is it not clear that the cost is here already? It is being paid now. Are we so bankrupt that society cannot stand this burden, that we must put it on the backs of the people who are least able to bear it, and at the time when they are least able to bear it? I say that the burden of sickness is a simple, easy burden to carry, if done in the right way. When distributed, it is easy enough to carry. It is the same as with the soldiers' load. They could not carry it fastened about their feet. We are now carrying the burden of sickness about our feet, when we should be distributing it over the whole body.

Now I wish to speak of medical care. I am not fixed in my notions of the exact form of medical care. It is my judgment today that the doctors should get together and formulate, from their standpoint, the best kind of medical system that can be devised to meet the conditions under health insurance. I should not be in favor of a system that did not give the best medical care possible under present conditions to every man. If it is possible to put the man on his feet, should it not be done as a contribution from society? The doctors ought to use their best intelligence to formulate systems to give adequate medical service to every one.

How is the doctor to be chosen? By his own election. If he does not want to practice under the system, he does not have to. No physician will be forced to do anything. You can permit him to do it, by going on the panel.

How is it to be paid? Simply on the basis of a fair rate. You are not going to ask him to give his services. You are going to pay him out of the fund. The man has paid for the service in his insurance, and that money is in the fund; and when the bill is presented, it is presented to the fund, instead of to the man.

Then how is the patient to choose his doctor? He can have his free choice, just as he ought to, and not as under many Workmen's Compensation Laws. Every man does not have his own physician. In the large cities, the family doctor does not generally exist. If there is a family physician, the man should be allowed to choose him.

Dr. Colcord: How about it if the doctor does not belong to his panel?

Mr. Lapp: He would have to choose from among those on the panel.

Dr. Colcord: What is the recompense?

Mr. Lapp: It would vary in different places, just as at present. The charge made by doctors varies now in different cities. I have admitted that I am not entirely clear on the method of compensation. Rates will certainly have to be adjusted from time to time. It would not be fair to have a fixed amount, because the cost of living varies. I have no idea what it should be in Pittsburgh. The doctor ought to have a fair rate of remuneration. If I were fixing a rate I would do so only after hearings and investigation.

From the Floor: Please give the rate of Ohio.

Mr. Lapp: I am not an arbiter. I am not fixing the rates or deciding the thing. That is not a matter to be arbitrarily fixed.

From the Floor: Twenty cents?

Mr. Lapp: That is an assumption which the propagandists against health insurance have been making in their statement that the English doctors get that, and the Germans eighteen cents; but I hope that the fee paid will be fair to the doctors, and would give them, in each community, what would be a fair rate. It ought not to be fixed definitely. You know that the conditions change from year to year so that it must be adjusted from time to time.

From the Floor: How many times have the insurance companies adjusted the compensation they pay the doctors under the Workmen's Compensation Law? But once.

Mr. Lapp: You are condemning Workmen's Compensation? I am not concerned with that here. No one would try to repeal those laws.

Dr. Patterson: This is getting into the realm of heckling. Mr. Lapp has the floor, and is going to hold it. After he gets through, we will start the discussion all over again, if you wish; those who interrupt will be out of order.

Mr. Lapp: I cannot see how anything could be fairer than this proposition. I am not a propagandist. I am through with my work in Ohio. I do not expect to make another investigation, because now I do not feel that I am neutral any longer on the advisability of health insurance. There are factors in the matter that I feel entirely neutral upon, however, and upon which further investigation is needed, such as the type of medical service. The doctors should take this up as their own question. It is a matter that they should solve, and not do as they did when Workmen's Compensation was up for consideration. I do not know of a single state in which the doctors appeared at the hearings before the legislative committees. Laws were passed that did not take the doctor into consideration at all. In a great many states they had no medical provision at all. In others, they provided only slightly. The unfair provisions are there because the doctors did not organize in time and give their views. If health insurance comes, and I think it is inevitable, the doctors should get busy on the subject and solve these questions themselves; because it is a question of adequate medical service and adequate compensation. What that adequate compensation is, I should not want to say without careful inquiry.

As for the treatment of eyes, ears, etc., a man should have a specialist's treatment, the same as general treatment. In regard to osteopathy, chiropractic, etc., the United States Compensation Commission settled that by providing that if a man needs that kind of service and it is asked for by the doctor, it can be given; but you see that there is not much chance in that arrangement for the osteopath or the chiropractor.

What is the present status of health insurance? There is no bill before the legislature of Pennsylvania nor at this time in Ohio. The only one being promoted now is the one backed by the State Federation of Labor in New York, and endorsed by the governor. It is the bill of the American Association for Labor Legislation plus the amendments that the New York Federation of Labor put in it; and I understand that a great many new medical amendments, with which I am not acquainted, have been put in it. Personally, I do not think that there is any chance that health insurance will come this year in any state, unless it is New York. I should not like to have it passed in Ohio this year. I should like the doctors to consider the medical phase before the scheme is put in operation. But, ladies and gentlemen, it is an inevitable policy in this country. It is coming, just as every social reform has come. Who would have dreamt ten years ago that Workmen's Compensation would be universal in this country today?

If I have read the signs correctly, it is true that health insurance is inevitable; and it is our duty as employees and employers, physicians and social workers, to study the thing, not from the standpoint of damning it or putting it straight through, but to make sure that if any scheme is passed, it will be passed in a reasonably good form.

Dr. Patterson: I should like to ask Mr. Lapp a question. He has said that he is through with investigations of social insurance, but I should like him to come to our next meeting and speak on the subject of what fees the doctors ought to get.

Mr. Lapp: That matter should be adjusted from time to time as justice dictates. It would be unfair to lay it down in the law.

Dr. Patterson: You have to fix some sum in order to get a start.

Mr. Lapp: I should be glad to discuss the medical provisions at your meeting.

Dr. Hoffman: But how are the poor to obtain the best medical service? Why are they not provided with suitable clothing as well through a state agency as with cash benefits for other needs under the proposed compulsory health insurance law?

Mr. Lapp: I would not expect Utopia all at once. Have we enough doctors now, or enough nurses? If we have not, I should not expect that next week you would have a complete medical service. I should think that in the course of time, two decades maybe (these things come slowly), if we work on it, it is bound to come; and we shall have a better distributed medical service than we have now. I am optimistic and believe that these things will work out; but I do not believe in letting things take their own course. I believe in having them guided by intelligent study. If the physicians do not take an interest in it, I do not know what will happen when it is put over. I do not see how a doctor can take exception to that proposition.

Dr. George E. Tucker, Aetna Life Insurance Company, Hartford, Connecticut: In the last analysis, is not that question to go before the legislature for answer? When the medical profession is called upon to make its plea before such a body, it will be presenting its claims to a group of laymen who are seldom called upon to study technical medical problems; and in reality, is not any consideration the medical profession may receive from the legislature going to be obtained largely as a result of the political pressure it may be able to bring to bear?

Will not the major duty of the physicians of the future be, not to wait upon sick people but to engage in politics? Health insurance as proposed in the past has been more or less of a political measure and this statement holds true not only as to the history of such measures in this country but also in Europe.

If you do engage in politics, you gentlemen will no longer have time to read current literature pertaining to medicine and surgery, but will be obliged to sacrifice your time lobbying at the legislature. Your efforts will be directed toward educating legislators as to what is just and what is unjust from a medical standpoint, not only as to the possible effect certain legislation might have upon the members of the profession, but upon the public as a whole; you will be called upon to explain the need for devoting the amount of time that you as medical practitioners require to make a diagnosis, the number of patients you are able to treat in a given period of time and the amount of roentgen-ray service necessary to make a proper diagnosis in certain types of cases. Your efforts will be directed toward convincing a group of laymen, whose primary interest is in problems concerned with reelection, controlling of votes and in legislation of greater personal interest.

In some states to try to convince the legislature of the justice or injustice of certain proposed legislation constitutes a real political job. In California, for instance, the credit for defeating health insurance belongs in a large part to the efforts of the medical profession. They exerted their influence upon the voters by perfecting a real organization of a political value.

For several years as chairman of the Committee on Public Policy and Legislation of the state medical society I represented the medical profession of the state of California at the legislature. My efforts were directed toward bringing about the passage of a medical practice act that contemplated a high standard of education for medical licensure. I found that it was necessary to do politics and not depend upon the education of the member to support a measure. It was a distinct pleasure to be invited to appear before a committee of the legislature to present the views of the public health workers as to the proper method of handling certain public health problems, but it was plainly evident that regardless of the nature and the importance of the particular measure which we favored, it was a comparatively simple matter for a group of politicians to completely upset a prearranged program and have a measure of purely personal, selfish interest substituted on the program at a hearing.

I am sorry that I did not take advantage of my opportunity earlier to discuss the political features of the health insurance proposal.

Dr. Patterson: You wanted to ask Mr. Lapp a question?

Dr. Tucker: The question that I wanted to ask was, how are we to get together and obtain anything from a legislature elected by the people except by the votes of the people?

Mr. Lapp: Dr. Tucker has made an admirable argument against our system of democracy, as you will see if you have followed it. For twelve years, now, I have been with a legislative body all through their sessions. I have seen these things come gradually and finally be perfected. In Ohio, for instance, the Workmen's Compensation was not, at first, fair. Finally, the people saw the light. It takes a long time to put anything over in the legislature, but that is a saving grace. It takes longer to put it over; but it is probably better when it is put over. Possibly we shall finally have state medical service. That is more extreme for the physician than anything that I have proposed. Health measures have not had the attention that they should, but that is not an argument against health insurance.

Dr. Patterson: Before passing to the final subject on the program, I have something to say. Dr. Tucker made a few remarks about hanging around the legislature. In the humble judgment of your chairman, who is not inexperienced in these matters, I might say, it was because the doctors did not have pep enough to get up there and tell the legislature what they wanted. If the profession does not get busy on the subject of health insurance, it cannot expect proper recognition when the legislation is passed.

Dr. Tucker: They were not permitted to be heard.

Dr. Patterson: I beg your pardon. I was there, and urged adequate professional fees.

Passing to the next subject, in the absence of Col. C. C. Pierce, of the United States Public Health Service, Washington, D. C., Dr. R. A. Jewitt, who represents the same department of the Government, will tell us "How the Industrial Physician Can Help in the Campaign against Venereal Disease."

HOW THE INDUSTRIAL PHYSICIAN CAN HELP IN THE CAMPAIGN AGAINST VENEREAL DISEASE

RUSSELL A. JEWITT, M.D.
United States Public Health Service
WASHINGTON, D. C.

The biggest problem before the medical profession today is the control of venereal diseases. We have inherited this duty from the war. We, as physicians, have known that venereal diseases exist, and have existed. However, for the first time in history, a number of men have been examined and we have been able to learn to what extent these venereal diseases exist.

It was learned that 7 per cent. of the drafted men between twenty-one and thirty-one years of age had venereal diseases. We thus realized the necessity of protecting people against these diseases, and the government gave to the Public Health Service the work of the Army and Navy of establishing protective measures against these diseases. Congress made certain specific appropriations for this work.

One requirement was that every state should receive funds for carrying on this work and make venereal diseases reportable. All the states have complied with this requirement, with the exception of Pennsylvania, Tennessee, Missouri, New Mexico, and the District of Columbia. In order to acquaint the people with the necessity for this work, publicity and education were started by the Public Health Service, the American Hygiene Association, the Young Men's Christian Association and the church organizations. This was done in order to get the work to a point where the state boards of health and communities could see its necessity.

The work necessarily divided itself into two distinct divisions: The moral aspect and the medical aspect. We, as physicians, are interested in the solution of the medical problem. However, we do not feel that we can accomplish the best results without the best support possible from the church people.

The medical solution divided itself into three divisions: The raising of funds; the spending of these funds for clinics, hospitals, and detentions homes; and follow-up work. Funds can best be raised from these sources: Federal, state and local appropriations; industries; and philanthropy. Perhaps the best of these will be private contributions, especially from the industries.

The solution comes down to the control of venereal diseases after we have established hospitals and dispensaries. Here starts the work of the industrial physician and surgeon. His first duty in his plant is to see that his medical service is extended to include this branch of medicine. The cost of clinics has been provided for. The cost of materials, etc., can be added without much additional expense. The Public Health Service is now operating indirectly, through the state boards of health, 126 clinics. The value of clinics operated by manufacturers or employers is obvious and consists in the increase in labor efficiency by eradicating diseases from their employees, and the resulting decrease in labor turn-over. The biggest asset, however, is the rendering of cases noncommunicable by the giving of "606;" also, the work done by these associations in the community is of great educational value.

The industrial surgeon, after he has established clinics for his own firm, should take an active interest in stimulating the same work in the community. In other words, he should get the hospitals and clinics not now treating venereal cases to do this work, and quit discriminating against these cases. He should stimulate social agencies in the community, industries and the medical profession to finance clinics in the community.

The problem of the larger employer is pretty well solved by having a capable full-time physician. However, the small employer cannot have this medical service. In some way, he should be given the benefit of medical service. In the city of Chattanooga, Tennessee, we are now operating three industrial clinics for cases of venereal diseases, which are paid for by thirty-eight small manufacturers by a pro rata pay roll assessment. This seems to be a solution of the medical service problem for the small industry. The manufacturer, it will be found, is not always interested in the establishing of venereal disease clinics. He will be interested in first-aid, routine examinations, nursing service as well as treatment for venereal diseases.

This interest can be capitalized by giving the same sort of combined service, including venereal disease treatments. It has been found that the first-aid stations established by a group of manufacturers may give needed treatment for venereal diseases, at the same time doing first-aid work.

Industrial insurance companies are interested in the venereal disease problem, or should be interested, if not already. They should be stimulated by the industrial surgeon in a constructive program of clinics. Taking the 10 per cent. of a liability premium usually paid for first-aid, as a basis, manufacturers can finance a clinic with a full-time physician and nurse giving the first-aid work, routine examinations plus the venereal work for the same cost.

After establishing the clinics, these are of little value if follow-up work is not done. By that, I mean getting the infected into the clinic, to take advantage of the service. In the industry, talks to the foremen by the industrial physician are advantageous. They are much more advantageous, if the president or superintendent of the company accompanies him and endorses his remarks. Every clinic should have a nurse capable of doing a certain amount of follow-up work. That is, he should see the men are brought back for treatment after this is once started. He can go into the plants and factories and, by mixing around with the foremen, can locate the cases. Oftentimes, when going into the factory, he can hand to the man a bill calling attention to venereal infection and calling his attention to the clinics for the treatment of the disease.

Perhaps the greatest advantage of follow-up work will be through the community social workers, nurses, associated charity workers, and hospital social workers. These workers, along with the police system are all of value to the community clinic, and also to the industrial clinic.

In summing up the way the industrial surgeon can help, I would say let him give attention to establishing venereal clinics, hospitals and detention homes, first for his own plant, then stimulate the establishing of the same for other plants; then by working in the community, get the community to establish adequate service for the treatment of venereal diseases. When he can point to his work and say, "This is what we have done," he will be a strong factor in getting the community into action. By following out the law in reporting his cases to the local health board, he can be of further assistance, and last, but not least, by attending church and so lend his support to the moral program.

Dr. Patterson: Do you want to show the film?

Dr. Jewitt: I have a film called "Fit to Win." It takes an hour and forty-five minutes. I will show as much or as little of it as you care to see. It needs no remarks to tell the story, for you all know it.

Dr. Patterson: We will have it shown after the discussion. I will call on Colonel Edward Martin, our commissioner of health, to tell us something about Pennsylvania's plans regarding the work.

DISCUSSION

Colonel Edward Martin, Philadelphia: This work merits the hearty cooperation of the whole profession. We are now trying to realize some of the lessons of the war. We realize that venereal infections are preventable. We realize the value of all the campaign in physical exercise and moral uplift. We realize that there is not enough of it. We realize that in spite of that, there will be a steady and large increase in venereal infection. Therefore, our duty lies mainly in this: First, the establishment of dispensaries in which the patients are treated and rendered innocuous. The people engaged will have to go to school and learn. Second, the wide dissemination of the use of so-called prophylactic packages and early treatment. There is no logical reason why a person who is exposed to infection should not take early steps to avoid the consequences to himself and other people.

Therefore, we want to take steps to have these early packages. We advise the soldier to consult the doctor at once, but it is not enough. The result of the disease is inevitable. Immediate treatment would prevent it, but many a man would not seek treatment, if it involved going to a doctor. Many a man would, however, use one of these prophylactic packages, if given it, upon himself. These packages are distributed to places where they can be obtained when the real necessity for their use comes.

We have not advocated reporting the diseases, because we have not seen any case in which this has done good. We do not care to advocate laws that are honored in the breach, thereby causing contempt for all laws. There has been from this office, in that respect, a silence comparable to that which is said to emanate from the grave. When it is proved that good comes from it, Pennsylvania is willing to adopt it.

We are also having legislation prepared for the sequestration and confinement in penal institutions of carriers of disease who are not willing to live up to rules imposed by the medical profession. Venereal diseases cause more illness and death than tuberculosis and all other diseases. Is that the right way to play the game?

Dr. S. Dana Hubbard, New York: I should like to make a few remarks regarding the Pennsylvania state commissioner of health's attitude; because, with all due respect, I believe that he has the cart before the horse. I still believe that the fault with his conclusions are that it is no excuse because it is hard to get cases of venereal diseases reported. That, however, is no excuse for varying the principle that has so long been established in the control of contagious diseases, which has always required cases to be officially reported. Even if the value only consists in getting statistics, such work as that may be very helpful. For that reason, I hope that the state of Pennsylvania will finally adopt the practice which some thirty-five states have already adopted.

In New York City, Dr. Herman M. Biggs was the initiator of this. He was also the initiator in the reporting of cases of tuberculosis. If you remember the fight he made in New York for the control of the tuberculous, you will know that the antagonism against that was just as bitter as it is now against the control of the venereal diseases. It is false modesty to try to hide it. It is a problem that we have got to meet.

Just recently, in the report of the Surgeon-General of the Army in comparing the incidence of diseases both abroad and here, we find that venereal diseases head the list both abroad and in America. Now there is something wrong with our people; and as long as you do not know I believe that even though there are a few who still persist in violating the law, it is your duty to require a report of your cases. Before a public health official can know what he is up against, he must have reports; whether he adopts the policy of giving a number or that of giving the name or the initials, makes no difference. You must have statistics before you can proceed to make comparisons.

I know you can do this. You have the facilities here that I wish we had in our state, which is so full of alien people. Seventy-two nationalities attend our public schools; when we go out to make propaganda before these people we must do it in many different dialects. That is our problem. We must know these foci of infection; and I do hope, Commissioner, that you will use your influence to bring Pennsylvania to the side where these diseases are required to be reported.

Mrs. Samuel Semple, Pennsylvania Department of Labor and Industry, Titusville: I wish to ask two questions: First, How does this differ from a legalized, protected system of vice?

Dr. Martin: As night from day.

Mrs. Semple: That is very vague. The second question is, May the carriers of social disease be men as well as women? I have just read that two hundren people were taken in a raid by the United States Government in Erie. The men were fined and dismissed, while the women were examined at the dispensary, card catalogued, and their records kept for future reference. I want to protest against a system that legalizes anything like that.

This brought the discussion to a close. The motion picture, "Fit to Win" was then shown. This took until about half past seven.

REPORT OF COMMITTEE APPOINTED TO CONSIDER THE QUESTION OF TRAUMATIC HERNIA IN RELATION TO THE WORKMEN'S COMPENSATION LAW

Whereas: The traditional opinions of judges, lawyers, courts and compensation boards have for years been founded on the erroneous idea that hernia is a rupture of the belly wall usually caused by an accident or an unusual strain while working and is therefore compensable the same as any other accident. And whereas, it is now the belief of surgeons the world over:

1. That these opinions are wrong and opposed to surgical experience and well ascertained facts.

2. That the great majority of hernias develop gradually in individuals having congenital or acquired defects in their abdominal walls.

3. That all hernias of long standing have well formed hernial sacs with necks at the openings in the belly wall, and have the escaped abdominal viscera contained within these preformed hernial sacs.

4. That the discovery and demonstration of well-formed hernial sacs at operations for the radical cure of hernias constitute prima facie evidence that such hernias are of long standing.

5. That the rare cases of hernia caused by direct trauma, inflicting tears or punctures anywhere in the abdominal walls, and hence properly called "traumatic hernia," exhibit at operation hemorrhages,

ecchymoses, and fresh tears in the belly wall, and the escaped abdominal viscera contained within no hernial sac. Therefore, be it

Resolved, That it is the unanimous opinion of this body of surgeons that in all cases before a legal tribunal, when the question of compensation for hernia is involved, where an employee claims a recently acquired hernia, caused by an alleged accident during his work, it is urged and advised that the testimony of the operating surgeon or surgeons be heard, and that if such testimony shows evidence of a well-formed hernial sac, and other proofs of long standing hernia, it is convincing and conclusive evidence, that the acquired hernia was not caused by an accident during the course of the employee's work; that it was the outcome of latent anatomical defects, during years of gradual development; that it arose through no possible fault of the employer; that such hernia constitutes a disease, and that it is not properly compensable on the basis of alleged accidental injury. And it is further

Resolved, That we recommend the passage of the following amendment to the Compensation Law of Pennsylvania, on the subject of hernia:

PROPOSED AMENDMENT TO THE COMPENSATION LAW OF PENNSYLVANIA

Hernia is a disease which ordinarily develops gradually, being very rarely the result of an accident.

Where there is real traumatic hernia resulting from the application of force directly to the abdominal wall, either puncturing or tearing the wall, compensation will be allowed. All other cases will be considered as either congenital or of slow development and not compensable, being a disease rather than an accidental injury; unless conclusive proof is offered that the hernia was immediately caused by such sudden effort or severe strain that; first, the descent of the hernia immediately followed the cause; second, that there was severe pain in the hernial region; third, that there was such prostration that the employee was compelled to cease work immediately; fourth, that the above symptoms were of such severity that the same were noticed by the claimant and communicated to the employer within twenty-four hours after the occurrence of the hernia; fifth, that there was such physical distress that the attendance of a licensed physician was required within twenty-four hours after the occurrence of the hernia. In the case of hernia, as above defined, compensation shall be paid until such time as the employee is able to resume some kind of work with the aid of a truss or other mechanical appliance. If the employee refuses to permit of an operation, the employer shall meet the requirements above specified, pay the reasonable costs of the truss or other appliance found necessary, and also pay compensation not to exceed twenty weeks, following which his obligation shall cease and terminate, unless death results from the hernia, in which case the compensation shall be paid. However, if the employee shall elect to undergo an operation, by a physician selected by the employer, the employer shall meet all the expense incident to such operation and recovery, not in excess of one hundred and fifty dollars, together with compensation as provided during the periods of disability prior to and following the operation, as provided in the Act. If the employee refuses the services of the physician selected by the employer, preferring one of his own selection, the employer shall be relieved of obligations concerning medical expense due to the operation and recovery, but shall pay compensation during the prior and resulting periods of disability, except as provided in the Act. If death results from the hernia or operation, compensation shall be paid to the dependents in accordance with the terms of this Act.

Where it is proven to the satisfaction of the compensation board or court that a well-formed hernial sac or other proofs of a long standing hernia were found at the time of the operation for radical cure, a claim for compensation for hernia shall be disallowed.

A. W. Colcord,
Charles A. Lauffer,
S. P. Mengel,
Committee.

LIST OF PERSONS ATTENDING THE EIGHTH CONFERENCE OF INDUSTRIAL PHYSICIANS AND SURGEONS, HELD UNDER THE DIRECTION OF THE DEPARTMENT OF LABOR AND INDUSTRY, MARCH 14, 1919

Dr. R. P. Albaugh, Columbus, Ohio; Director, Division Industrial Hygiene, State Department of Health.

Dr. T. B. Allison, Tarentum; Pittsburgh Plate Glass Company.

Dr. Jesse E. Ambler, Ford City; Pittsburgh Plate Glass Company, Frick Building, Pittsburgh.

Dr. C. D. Ambrose, Ligonier; Ramsey Coal Company.

Dr. Howard Arthurs, 1209 Farragut St., Pittsburgh; Pittsburgh Railways Company, Duquesne Light Company, 435 Sixth Ave.

Dr. John M. Askey, Carmichaels; The Buckeye Coal Company.

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Dr. Harry J. Bell, Dawson; Pittsburgh & Lake Erie Railroad Company, Baltimore & Ohio Railroad Company.

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Dr. H. W. Bernhardy, Rochester; Pittsburgh Crucible Steel Company, Colonial Steel Company.

Dr. C. A. Bicking, 5177 Liberty Ave., Pittsburgh; American Sheet and Tin Plate Company, American Bridge Company.

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Dr. W. A. Blair, Spangler; Jos. H. Reilly Coal Company, Sonman Coal Company, Saxman.

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Dr. Howard E. Bricker, 115 N. 34th St., Philadelphia; Philadelphia Rapid Transit Company.

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Dr. J. B. Stoner, Pittsburgh; United States Marine Hospital.

Dr. E. K. Strawn, West Newton.

Dr. R. V. Swanton, 301 S. Atlantic Ave., Pittsburgh; American Steel and Wire Company.

Dr. Eugene Swayne, Harriman; Merchant Shipbuilding Corp.

Dr. E. E. Taylor, 11 Crafton Ave., Crafton; H. J. Heinz Company, Pittsburgh.

Dr. H. Furness Taylor, Ridley Park; Westinghouse Electric and Manufacturing Company, Lester.

Dr. Jackson Taylor, 374 Main St., Coatesville; Lukens Steel Company.

Dr. John W. Trask, 3311 Newark St., Washington, D. C.; United States Employees' Compensation Commission, United States Public Health Service.

Dr. George E. Tucker, Hartford, Conn.; Aetna Life Insurance Company.

Dr. Frederick L. Van Sickle, Olyphant; Delaware and Hudson Railroad Company.

Dr. A. A. Van Slyke, Mt. Jewett; Buffalo, Rochester and Pittsburgh Railway Company.

Mrs. Mable W. Van Slyke, Mt. Jewett.

C. H. Verrill, Washington, D. C.; United States Employees' Compensation Commission.

Miss Cora D. Wallace, Tuberculosis League Hospital, Pittsburgh.

Dr. James O. Wallace, 7034 Jenkins Arcade, Pittsburgh.

M. E. Wallace, 5611 Kentucky Ave., Pittsburgh; Spang, Chalfant and Company, Inc.

Dr. S. J. Waterworth, Clearfield; New York Central Railroad Company.

Miss Edith R. West, 612 N. Front St., Harrisburg; Moorhead Knitting Company.

Dr. Fletcher K. White, Sewickley; Westinghouse Electric and Manufacturing Company, East Pittsburgh.

Dr. John V. Wilson, 1332 Juniata St., N. S., Pittsburgh; Pressed Steel Car Company.

Lawrence E. Wilson, Hillsview Sanitarium, Washington.

Dr. Gordon E. P. Wright, 902 Keenan Building, Pittsburgh; United States Public Health Service.

L. S. Wright, McKees Rocks; Pressed Steel Car Company, Pittsburgh.

Dr. Jay B. F. Wyant, Kittanning.

Dr. G. R. Wycoff, 604 Chartiers Ave., McKees Rocks; Pittsburgh and Lake Erie Railroad Company, Pittsburgh.

STERILIZATION OF HYPODERMIC SYRINGES

Lyon Smith, *British Medical Journal,* recommends the following method for rapidly and safely sterilizing all glass, or glass and metal syringes and their needles without the delay and difficulty of boiling. The following mixture has proved entirely satisfactory:

Lysol ....1.0 (min. xv);
Ether ....8.0 (dr. ii);
Alcohol, to make............30.0 (oz. i).

This solution should be drawn up into the syringe, with the needle on, two or three times to half fill the barrel; the piston should then be fully withdrawn and the syringe well shaken for a few seconds. The fluid can be used over and over until it is very turbid and tends to block the finer needles. The solution is also very satisfactory for sterilizing the skin for injections and blood cultures. It is not irritating if left on for not over ten seconds and removed by swabbing with plain alcohol.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

WALTER F. DONALDSON, M.D., SECRETARY, 8103 Jenkins Arcade Building, Pittsburgh, Pa.

EDUCATING THE PUBLIC

The public is not interested in epidemic sickness after the danger is apparently past. Witness the indifference to infantile paralysis since the passage of the dread scourge of 1916. Shall we permit the same thing to happen now as the terrible toll exacted by influenza in 1918-1919 is gradually being forgotten? Or shall we point the way to greater efforts in the realm of prevention? For America this epidemic was many times more devastating than the war. The chief actuary of the New York Life Insurance Company, Mr. Arthur Hunter, has worked on the subject as thoughtfully as anybody, and he estimates that the total deaths due to the epidemic was about half a million. This would make the year 1918 as harmful to the population of the United States as any year of the war was to any of the belligerents who were more directly engaged.

The effect of the epidemic on the course of the race must be considered. The singular characteristic was that it took the young and strong, potential fathers and mothers. In 1917 the average age of deaths in the New York Life Insurance Company was 51; in 1918 it was 34. The epidemic took young men and young women in equal proportions. The death of a young women does more harm to the race than the death of a young man in battle. The epidemic was a blasting thing. It passed by the infant, who can more readily be replaced. It ignored the old, who are no longer economically useful.

Medical men must constantly revert to the warning experiences of this history-making plague. We must in every possible way make constantly more dramatic the prosaic and ofttimes unpleasant work of our public health officers and departments. We must support legislation that will remove these officials, be they national, state, county or municipal, from the influences of politics—legislation that will widen their knowledge and increase their incomes. Many medical men returning from the army have had splendid training as sanitarians and should be encouraged to enter the public health service. Preventive medicine is in its infancy, and is the true sphere of the future highest type physician.

COERCION CAMOUFLAGED

One has but to listen to the statements of the proponents of social insurance to realize that they are sincere when they express the hope that the medical profession will fall in line contributing their advice and support. We recently sat at the feet of Secretary Andrews of the American Federation for Labor Legislation while he held forth on this offspring of state socialism, and we soon realized that the success of his plan to overcome sickness and disease depends absolutely on the medical profession. Industrial health insurance he now calls this additional wedge for paternalism.

Criticism and opposition to the Standard Bill as introduced in the legislatures of fifteen states has resulted in the withdrawal of the Standard Bill in the same fifteen states. Finally the coercive features of the bill were so successfully camouflaged that it came to a vote in the sixteenth state, namely, New York, where it was favorably acted on by the senate, and later defeated in the house. In the New York Bill the state was to contribute no money, simply to supervise the administration of the funds, and the insured were to have *free choice of physicians.*

Secretary Andrews did not volunteer the added information, but questioning brought out the fact that the insured would have free choice from among those physicians *within the panel.* Mr. Andrews referred to those eligible to the insurance as a comparatively small industrial group. He declared that the opposition came from insurance companies.

One's most vivid impressions after listening to Mr. Andrews were that his group ignore the virtue of individualism and thrift; that his group ignore the flat failures hitherto registered by lodge and contract practice methods in the treatment of sickness; and, finally, that his group will persist until their sophistries will prevail in some state legslative body.

We have always maintained that physicians were best equipped by training and experience to advise regarding improved conditions for the commonwealth in health or sickness. Great economic changes relating to the conservation of health are inevitable. Shall we permit a small group of theorists conniving with clever politicians to foist on us some shrewdly worded constitutional enabling act that may autocratically bear us down and develop statewide medical practice by contracts?

Organized medicine should at once begin the correlation of all worthy agencies for public welfare and the prevention of sickness, and be prepared to assume the leadership in presenting bills before the 1921 legislature that will adequately promote the public welfare and the development of welfare insurance in a manner in keeping with the best democratic spirit of the times.

ROADS TO HARRISBURG

We firmly believe that the charm of the countryside within the circle radiating 50 miles from our state capital is unexcelled by any territory of similar size within our state, and the same goes for any neighboring state. The present wide-spreading campaign for road improvement throughout the state of Pennsylvania will be nearly completed the latter part of September. This department will keep you informed of road conditions, and we urge you to plan your work so that you may drive to Harrisburg on September 22, enjoying to the fullest the autumnal beauties of mountain and valley. The local committee is planning for adequate garage facilities for September 22 to 26. Your return trip may easily be by good roads, along rivers and over hills not traversed on your earlier tour.

INCREASE OF PER CAPITA ASSESSMENT

The Berks County Medical Society, always alert and often in the lead, anticipating the adoption by the House of Delegates of the proposed increase in the state society each-member tax, has increased its annual dues to $10. They place a premium on early union with their society by fixing their entrance fee at $25 to those physicians practicing in Berks County three or more years before applying for membership. To those applicants who have practiced less than three years in Berks County the entrance fee is $3.

To a certain proportion of physicians in every county such terms alone bespeak the value of affiliation with the county and state medical societies. The increase in the state *per capita* assessment from the present annual rate of $2.75 to the proposed amount of $5 annually will prove little enough to provide for existing and proposed plans reacting for the scientific and economic benefit of all. Instruct your delegates to support all plans proposed in the House of Delegates that make for improvements in our own and the public welfare.

FACTS FROM THE 1919 MEMBERSHIP LIST

Number of component societies	63
Total membership, July 1, 1919	6,488
Total membership, July 1, 1918	6,698
Average membership per county	103
Largest county membership	1,654
Smallest county membership	10
Counties with more than 1,000 members	2
Counties with more than 100 members	16
Counties with less than 25 members	14
Counties with more members than same date 1918 (Adams, Allegheny, Beaver, Berks, Bradford, Bucks, Butler, Cambria, Center, Crawford, Delaware, Elk, Fayette, Franklin, Indiana, Lycoming, Mercer, Montour, Northampton, Perry, Snyder, Somerset, Venango, Warren, Washington)	25

OUTLAWED

Elsewhere in this issue appears news of the heavy hand of the law, falling no doubt without fear or favor, on the guilty. Physicians who deal illegally with habit-forming drugs are unworthy of public confidence, and the laws controlling such traffic have finally placed in the hands of those administering said laws this most powerful punitive measure. Fines or terms in prison may hold few fears for offending physicians, but the loss of license to practice at once renders such individuals harmless. This type of action will discourage offenders along other lines, namely, abortionists, false pretenders and those conniving to defeat prohibition.

SEATS OF THE MIGHTY!

Among the meeting places arranged for throughout the sessions of the September meeting in Harrisburg are the legislative and caucus rooms of our famous capitol building.

PAYMENT OF PER CAPITA ASSESSMENT

The following payment of *per capita* assessment has been received since May 24, 1919. Figures in first column indicate county society numbers; figures in second column state society numbers:

5/25	Dauphin	127	6322	$2.75
	Somerset	42	6323	2.75
	Carbon	32	6324	2.75
5/26	Crawford	52	6325	2.75
5/27	Beaver	55	6326	2.75
5/28	Perry	21	6327	2.75
	Cumberland	35	6328	2.75
	Somerset	43	6329	2.75
	Allegheny	*	6330-6362	90.75
5/29	Bedford	16-19	6363-6366	11.00
	Lehigh	76-85	6367-6376	27.50
5/31	Erie	117-118	6377-6378	5.50
	Philadelphia	1601-1635	6379-6413	96.25
6/5	Blair	81	6414	2.75
	Beaver	56	6415	2.75
6/6	Schuylkill	92-94	6416-6418	8.25
6/7	Washington	111-115	6419-6423	13.75
6/9	Somerset	44	6424	2.75
	Luzerne	196-201	6425-6430	16.50
	Westmoreland	141-142	6431-6432	5.50
6/10	York	114-115	6433-6434	5.50
	Beaver	57	6435	2.75
6/11	Fayette	121	6436	2.75
6/12	Berks.	119	6437	2.75
6/17	Montgomery	133-134	6438-6439	5.50
6/18	Tioga	26	6440	2.75
	Schuylkill	95-97	6441-6443	8.25
6/19	Philadelphia	1636-1655	6444-6463	55.00
6/20	Bradford	51	6464	2.75
6/23	Luzerne	202-203	6465-6466	5.50
6/24	Northampton	129	6467	2.75

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to June 23, 1919:

Allegheny: *New Members*—C. Wearne Beals, 1226 State St., Coraopolis; Walter Witherspoon, Harmarville; J. W. Funk, Roose Bldg., East Pittsburgh; Robert K. McConeghy, 4200 Butler St.; Wayne Emerson Booher, 803 East End Trust Bldg.; Richard S. Major, 914 W. North Ave., Northside; Francis M. Caldwell, 2117 Carson St., Southside; Morris A. Goodstone, 929 Fifth Ave.; James E. Brown, 6319 Broad St.; Joseph W. McMeans, 5020 Liberty Ave.; John J. Munden, 1003 Penn Ave.; Howard L. Farquhar, 1136 Brownsville Road; Agnes B. Ferguson, 325 Highland Bldg., Pittsburgh; Harold H. Hartley, Green Spring Ave., Terrace.

Beaver: *New Member*—Joseph J. Scroggs, Beaver.

Berks: *New Member*—Malcolm Z. Gearhart, 330 N. Fifth St., Reading.

Bedford: *New Members*—Thomas S. Taylor, Schellburg; Thorne Cornelius, Riddlesburg.

Carbon: *New Member*—Roger P. Batchelor, Palmerton.

Crawford: *New Member*—Mary M. Campbell, Meadville.

Delaware: *Transfer*—Howard S. Kinne, 826 E. Sixteenth St., Chester, from Philadelphia County.

Lehigh: *New Members*—John Schneller, Catasauqua; Harrison B. Kern, Slatington; H. D. Jordon, Allentown.

Luzerne: *New Member*—Charles Wilson Lamme, 216 S. Franklin St., Wilkes-Barre. *Death*—Charles Paxton Knapp (Bellevue Hosp. Med. Coll., '77) in Wilkes-Barre City Hospital, May 19, from chronic myocarditis, aged 66.

Lycoming: *Death*—Woods Frederick Derr (Johns Hopkins Med. Sch., '15) in Watsontown, May 26, aged 30.

Montgomery: *New Members*—Thomas B. Christian, State Hospital, Norristown; John B. Sherbon, Pottstown.

Northampton: *New Member*—James A. Betts, 100 N. Seventh St., Easton.

Philadelphia: *Death*—Frederick Kendall Brown (Jeff. Med. Coll., '90; Medico-Chirurg. Coll., Phila., '96) at his home, May 31, aged 54.

Somerset: *New Members*—George C. Grazier, Holsopple; Beverly W. Briscoe, Addison. *Removal*—Edward F. Hemminger from Meyersdale to 10 Kirkland Ave., Philadelphia.

Tioga: *Transfer*—Silas D. Molyneux of Blossburg from Sullivan County.

Washington: *New Members*—William Clayton Martin, Robert W. Smith, John W. Farquhar, California.

Westmoreland: *New Members*—Charles J. S. Kelly, Irwin; Charles A. Goble, 413 Clay Ave., Jeannette.

York: *New Member*—Brantley F. Parker, 729 W. King St., York.

A FEDERAL DEPARTMENT OF HEALTH

If the members of the American Medical Association will but get together and agree on a uniform policy with regard to the pressing need of a Federal Department of Health, there is little doubt that Congress will come to their relief and establish such a department. It is not only the experience of the country with the influenza and infantile paralysis epidemics that brings home to every layman as well as professional men the need of absolute coordination and standardization of public medicine and of all preventive and quarantine methods that must be set up from time to time, but the experience of the medical profession in the war has confirmed everything that civil life has revealed as to the gross stupidity that has for years prevented a Federal Department of Health from being set up. At the same time, this situation cannot be blamed wholly on the ignorance of the laity in Congress, since, as all medical men know, the failure to secure a Federal Department of Health has been due in part to what is known as "medical politics." But surely when, as Dr. Charles H. Mayo pointed out to the convention in Atlantic City in advocating that a Department of Health be established with a member in the Cabinet, it is a fact that as many as eighteen bureaus and departments at Washington take a hand in some phase of the public health problem, it is time that the profession got together and acted as a unit in demanding that an end be put to this fatuous procedure. As it is, Congress had better of Pennsylvania," says Dr. Martin. "Every one of connection with the request that it appropriate $1,500,000 for an investigation of influenza. For, under existing conditions, to ask large sums without securing absolute coordination in their expenditure for experimentation looking to the improvement of the public health is not the wisest procedure. Everything that has happened within the last two years cries out for a properly centralized Federal Department of Health, and the public as well as the medical men should insist that this very necessary department be established at once.—*Philadelphia Ledger*, June 15, 1919.

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* County society numbers omitted.

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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YORK—Nathan C. Wallace, M.D., Dover.

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

JULY, 1919

HOTEL ACCOMMODATIONS FOR THE HARRISBURG SESSION

The Penn-Harris will be the official headquarters during the Harrisburg Session, Sept. 23 to 26, 1919. The officers of the society will be located there. The scientific meetings will be held in the hotel and in the state capitol building. The social and the business meetings, the commercial exhibits and the registration booth will be located on the second floor of the Penn-Harris Hotel.

Below is given a list of the hotels and rates per day, European Plan. Members should write to the hotels direct for reservations. On account of the crowded conditions of the hotels at this time of the year it would be advisable wherever possible for two persons to occupy one room, also to make reservations as early as possible.

Hotels (European Plan)		ROOMS			
		Without Bath		With Bath	
	Capacity	Single	Double	Single	Double
Penn-Harris (Headquarters), Third and Walnut Sts..	500		$4.00–$5.00 (2 people)		$4.50–$6.00 (2 people)
Bolton, Market Square	200	$3.50–$4.00 (running water)		$4.50	$5.50
Metropolitan, Fourth and Market Streets	200	$1.50	$2.50	$1.50–$3.50	$3.50–$4.00
Columbus, Third and Walnut Streets	125	2.00	3.00	2.50– 3.00	$4.00 up
Senate, Market Square	50	$2.00–$2.50 (running water)		$3.00	
Hotel Carlton, Market Street	40	1.00– 1.50 (running water)		2.00	3.50
Hershey House, Market Street	40	$1.50 up			
Rife, Walnut Street	25	1.50		2.25	

HEALTH INSURANCE AND THE MEDICAL PROFESSION

The rapid spread of health insurance discussion throughout the United States in the last few years demonstrates that rapid changes are taking place in the economic as well as the medical world. Whether such changes portend good or evil for the physician is a matter to be determined largely by ourselves, and in the immediate present.

No body of men, save the workers themselves, will be so seriously affected as will physicians, should health insurance become a law in any of our states. When workmen's compensation was in its development the medical profession was apathetic and allowed unsympathetic interests to draft the medical conditions of the law; when it became operative, we suddenly realized our position, and consequently we are now trying to remedy injustice that might have been avoided had we more fully appreciated, in its formative period, what was happening.

Now, however, when we realize our experience under the workmen's compensation laws, and when health insurance seems less visionary and liable to become a reality at no far distant time, we must assume some positive attitude towards it. As a profession, we must determine whether such insurance is the most expedient and effective means to prevent much sickness and establish a higher standard of health in our state; whether it promotes efficiency in the worker and stability in industry; whether such insurance lessens poverty and minimizes dependency; whether it advances medical proficiency and medical science, at the same time contributing to the happiness and well-being of the members of the medical profession.

Sickness is a far larger problem than accident disability, and something must be done for its improvement. It is a problem as much for the medical profession as it is for any other class of citizens. We members of the medical profession must cooperate in determining whether the present methods of treatment and care are adequate and, if not, recommend ways and means for the better protection of the people from sickness and its effects.

That there are many good arguments favoring so-called health insurance cannot be ignored, and that many able and influential people and organizations favor it cannot be denied; therefore the medical profession must give it respectful hearing. If we are convinced that health insurance will accomplish much for the happiness and well-being of society, then we physicians must make it our business to see that a practical, far-reaching, fair and satisfactory health insurance law is made to allow the maximum benefit for the worker, adequate compensation for the physician and a minimum of expenditure for the state. If we are convinced that health insurance is not what is claimed for it, then we must suggest an alternative. It is our problem and it is obligatory for us to make as few mistakes as possible and the best time to rectify mistakes is, paradoxically, before they are made. So many interests must be considered, the workmen, the manufacturer, the physician, the public. All irritation, selfishness, recrimination, must be forgotten. All parties interested should get together and weigh the subject in every detail and then outline legislation which would satisfy all concerned and mean something in the development of better well-being for the people of our state. The medical profession must be clearly and explicitly in favor of some health system that will remedy some of the distresses revealed by various investigating commissions. J. B. McA.

MEDICAL LEGISLATIVE CONFERENCE

The gavel in the Senate and House of Representatives of the State of Pennsylvania, session of 1919, has fallen upon the last act of the many presented. The curtain has been rung down on one of the longest sessions of the Assembly in many years. To the credit of these legislative bodies may be given the enactment of many important and far-reaching legislative measures, this in many ways being an epoch-making Assembly.

From a summary of the report to be submitted by the Medical Legislative Conference of Pennsylvania to the physicians of the state in the near future, we wish to mention a few of the more important pieces of legislation that affect the profession.

From a survey of approximately thirty-five or more bills presented, which directly or indirectly affect medical men, by grouping the same into sections we find: First, the application for special legislation by the osteopathic practitioners and drugless therapeutists, whose efforts to be placed in the same position, relative to the practice of medicine, as are those under the Medical Practice Act. Their bills fell and no legislation was presented to the governor for his final action. Second, the continued efforts of the antivaccinationists, the antivivisectionists and the many other antis, whose biannual business it is to harass the legislature with bills, with the usual fate of being denied their irrational requests. This group comprises the medical bolshevists, who should, by education, be persuaded to cease their nonsensical interference in medical and sanitary affairs. Third, a miscellaneous collection of bills were introduced, relating to the work of the medical colleges, health and sanitation, housing regulations, the registration of nurses, the licensing of medical men in the service, the reporting of communicable diseases and bills of a similar nature, affecting the people of the state as well as the medical profession. We might mention in this group one bill of importance, which passed finally, a bill restricting advertising of remedies in the treatment of venereal diseases, etc. This bill when signed by the governor will be of great value to the people of this commonwealth. Other bills were also passed, but commentary on the same will best be submitted in the legislative report. Fourth, the most important enactment directly affecting the medical profession and hospitals of this state was the amendment of Section 306, Clause (e), of the Workmen's Compensation Act. This has been amended to read that the employer shall furnish the employee thirty days' medical and surgical services, medicine and supplies, at a cost not to exceed one hundred dollars. The term "major operation" has been stricken from the bill. The hospital services are separate from the medical services, and are to be paid to the hospital for thirty days' treatment of the employee at the usual ward charges, and the sum is limited by the Board to one hundred dollars. It can readily be seen that a vast improvement for the working men and women of the state will accrue from the passage of this Act, as well as financial benefit to the medical profession and the hospitals. Taking the session all in all, the Medical Legislative Conference has exercised its influence in a useful way, and the need of its continuance has been demonstrated.

F. L. V. S.

THE INDUSTRIAL SURGEON

In a recent discussion at Atlantic City on the scope of industrial surgery, Dr. C. E. Ford mentioned the following qualifications as required, in his opinion, by an ideal medical officer for a modern manufacturing plant:

Five years' general practice "to acquire a knowledge of a man and his foibles."

Knowledge of the special problems arising from the employment of women and children.

Knowledge of the workings of pensions and insurance.

Working knowledge of plant organization.

Knowledge of employment methods, including job analysis, etc.

Knowledge of wages in relation to the cost of living according to local standards.

Knowledge of hours of work in relation to fatigue and output.

Knowledge of the security and continuity of employment during slack periods and while recuperating from accidents or disease.

Knowledge of working conditions, such as safeguards from all dangers, social and physical; plant beautification, community conditions.

Ability to handle transfer and replacement of misfits in various jobs.

Ability to direct athletic and social activities.

Ability to replace injured to best advantage.

Working knowledge of company stores.

Knowledge of housing conditions and problems with ability to remedy defects.

Knowledge of labor turnover and its causes.

Ability to direct general education and Americanization of employees.

Such a medical man would indeed be a "superman" in almost any walk of life and deserve the salary of a popular-opera tenor! J. B. R.

THE HARRISBURG SESSION

The Harrisburg Session in September looks bigger and better every day with the return of the boys from France, who accustomed to sharing troubles in the Army, but who, getting back to the old grind of general medicine and the trials and tribulations of the surgeon, will be only too glad to get away and migrate to Harrisburg, where the various committees have been active, endeavoring to get in store some good things not only for the inner man but for the mind as well.

With the completion of the Penn-Harris Hotel during the past year, conveniences and accommodations equal to any city of its size in the Union can be furnished. Harrisburg, the city of railroads and manufacture, is one of the most easily accessible of any of Pennsylvania's cities; there are five different lines entering it from the four corners of the state, hundreds of trains entering daily, making it convenient for those who prefer to travel by rail. The magnificent state highways (William Penn and the Lincoln) entering Harrisburg make it very desirable for those who prefer to travel by automobile. The scenery in and about Harrisburg, with its mountains, rivers, agricultural land and the famous Dauphin, Cumberland, Lebanon and Lancaster counties, the richest agricultural counties in the United States, makes it a very desirable automobile trip, especially at this time of the year, and it is hoped that the members of the state society will take advantage of this opportunity to see their state and its capitol city.

The officers of the Committee on Arrangements are Dr. J. W. Ellenberger, general chairman; Dr. Jesse L. Lenker, general secretary, and the chairmen of the subcommittees are as follows: Finance, Dr. J. B. McAlister, 234 North Third Street; Arrangements, Dr. J. E. Dickinson, 228 North Second Street; Entertainment, Dr. H. F. Smith, 130 State Street; Popular Lecture, Dr. David S. Funk, 300 North Second Street; Lanterns, Dr. C. R. Phillips, 1646 North Third Street; Clinics, Dr. George B. Kunkel, 118 Locust Street; Hotels, Dr. Earle R. Whipple, Steelton; Publicity, Dr. Thomas S. Blair, 403 North Second Street; Ladies' Entertainment, Mrs. John Oenslager. J. L. L.

THE VICTORY MEETING OF THE A. M. A.

From every point of view the annual session of the Association held at Atlantic City last week must be considered a success. The attendance far exceeded the expectations of the most optimistic; the registration was 4,929, exceeding by nearly 1,000 the registration of the largest previous Atlantic City session, held in 1914; in fact, the registration this year has been exceeded only by that of the Chicago and New York sessions.

An unusual feature was the new arrangement for section meetings by which each section holds only one meeting a day. This plan was carried out by all of the sections except one, and the House of Delegates directed that the plan be continued.

The special Victory Meetings on Wednesday and Thursday evenings and the war sessions held Thursday afternoon, devoted to general medicine and surgery, were a novelty of this session. These meetings were well attended, the foreign guests and distinguished representatives of American organizations were enthusiastically received and the programs were instructive. Reports of these meetings appear in this and in the next number of the Journal.

The sessions of the House of Delegates were unusual especially because of the sociologic-medical aspects of the questions discussed. Narcotic addiction, social insurance, physical education, pharmaceutical interests, the publication of new journals, antivivisection legislation, daylight saving and the securing of permanent benefit from the medical work of the war—these were some of the subjects which engaged the attention of the House and on which definite recommendations were made or action taken. These are reported in the published minutes of the House of Delegates.

Among other attractions the scientific and commercial exhibits were exceptional both in the quantity and character of the material presented. In the scientific exhibit special notice should be given to the demonstrations by the Army and Navy Medical Departments and the Public Health Service of work both during the war and in preparation for peace. Connected with the scientific exhibit was a continuous motion picture performance in which were shown many new educational films.

Finally, it is not amiss to add here a note of thanks to the physicians of Atlantic City for their cooperation. Arranging for an annual session of the Association requiring numerous meeting places, large exhibit space and hotel accommodations for over 5,000 physicians and their guests is no small task. The aid given by an active local committee on arrangements is a determining factor in the success of the session. —*Journal of the American Medical Association,* June 21, 1919, page 1845.

STATE NEWS ITEMS

MARRIED

Dr. C. Melvin Coon, Athens, and Miss Margaret Ohlman, Wilkes-Barre, June 24.

DIED

Dr. J. Ewing Mears (Jefferson Med. Coll., '65) in Philadelphia, May 28, aged 81.

Dr. Valentine J. Bold (Jefferson Med. Coll., '90) in Philadelphia, May 21, aged 50, from heart disease.

Dr. William A. Burns (Univ. of Pennsylvania, '69) in Philadelphia, June 9, aged 76, from angine pectoris.

Dr. Jacob O. Knipe (Jefferson Med. Coll., '62) in Norristown, June 5, aged 82.

Dr. Cassius M. Porter (Philadelphia Univ. of Med. and Surg., '71) in Hillsville, May 20, aged 72, from cerebral hemorrhage.

Dr. Jedidiah Howe Adams (Univ. of Pennsylvania, '89) in Paoli, May 26, aged 53.

Dr. J. Allen Harrison (Hahnemann Med. Coll. and Hosp. of Pennsylvania, '92) in Philadelphia, May 25, aged 47, from influenza.

Dr. Caroline V. Wiley Anderson (Woman's Med. Coll. of Pennsylvania, '78) in Philadelphia, June 3, aged 70, from cerebral hemorrhage.

Dr. Samuel Smith Shields (Med. Coll. of Georgia, Augusta, '73) in Carbondale, May 30, aged 71, from heart disease.

Dr. Henry C. Dimond (Univ. of Pennsylvania, '81) in Philadelphia, January 4, aged 63.

Dr. William E. Lloyd (Baltimore Med. Coll., '94) of Forest City, in Olyphant, June 3, aged 44, following an operation for appendicitis.

ITEMS

Dr. Abner B. Bauscher, Temple, Captain, M. C., U. S. Army, has returned from overseas duty.

Dr. Walter A. Dearth, Pittsburgh, has been elected a member of the Allegheny County Prison Board.

Pennsylvania Hospital, Philadelphia, has been bequeathed $10,000 by the will of the late Robert Ralston Stewart.

Dr. Alexander C. Abbott, Philadelphia, has been appointed on the City Board of Health, succeeding Dr. Frank G. Hammond, resigned.

Major Cheney M. Stimson, M. C., U. S. Army, Philadelphia, who served with Base Hospital No. 82 at Toul, France, has returned from overseas.

Dr. Edward Martin, Philadelphia, was conferred the degree of Doctor of Laws by the University of Pennsylvania at its 163d annual commencement.

Dr. James F. Edwards, Pittsburgh, for many years director of the department of health at Pittsburgh, has been appointed health commissioner of Omaha.

Capt. Harold T. Antrim, Philadelphia, surgeon of the Third Battalion, Twentieth Engineers, has returned home from seventeen months' overseas duty.

Dr. J. Solis-Cohen, Philadelphia, at the annual meeting of the Philadelphia Laryngological Society, June 3, was elected honorary president for the term of his life.

Dr. Daniel J. McCarthy, Philadelphia, Lieutenant-Colonel, M. C., U. S. Army, recently discharged, has been appointed chief medical director of St. Agnes Hospital, Philadelphia.

The Sacred Heart Hospital, Allentown, costing nearly $200,000, will be dedicated on August 31 in connection with the golden jubilee celebration of the Sacred Heart congregation.

Lieut.-Col. Clarence P. Franklin, M. C., U. S. Army, was the guest of honor at a banquet at Hotel Walton, given June 5, by prominent members of the Italian Colony of Philadelphia.

Dr. Lewis H. Seaton, Chambersburg, Captain, M. C., U. S. Army, who served for several months in France, has been awarded the distinguished service cross by the British government.

National Board Examination.—The examination held by the National Board of Medical Examiners at Philadelphia, June 2-7, had the largest number in the history of that board, *i. e.*, fifty-two candidates.

Dr. Joseph D. Findley, Altoona, has been elected chief of the staff of the Altoona Hospital, to fill the vacancy caused by the resignation of Dr. Orr H. Shaffer, who, on account of ill health, will spend a year in California.

Altoona Physicians Return from Overseas.—Capt. Don C. Kyper has returned and Lieut.-Col. Fred H. Bloomhardt, Major David Kauffman and Capt. James Taylor, all of the Medical Corps, U. S. Army, are reported en route.

The Babies' Hospital of Philadelphia will now be built, as planned previous to the war, at the northeast corner of Seventh and DeLancey Streets. The building, which will cost $110,000, will be six stories in height and of colonial type.

Major Charles A. E. Codman, M. C., U. S. Army, Philadelphia, who has been placed in charge of Base Hospital No. 104, the Beau Desert Hospital centered near Bordeaux, has been promoted to the rank of Lieutenant-Colonel, Medical Corps.

The Medical Club of Philadelphia held its last reception of the season at the Bellevue-Stratford Hotel, June 18. Hon. Robert L. Owen, U. S. Senator from Oklahoma, and the foreign delegates of the American Medical Association were the guests of honor.

Health Week at Williamsport was conducted by the Lycoming County Tuberculosis Society, and concluded with a great mass meeting in the Courthouse under the auspices of the local medical society, June 6, the speaker of the evening being Dr. Charles Scott Miller of the State Department of Health.

Child Welfare Week was celebrated in Meadville June 9-15, under direction of the health department of the Woman's Civic League. Exhibits were shown of Practical Care of the Child, with the exhibits of the Society for the Prevention of Tuberculosis, and the Health Department of the State of Pennsylvania.

The Women's Medical College of Pennsylvania conferred degrees on seven women June 18, at the sixty-seventh annual commencement. The principal address was delivered by Miss Elizabeth Carpenter, Philadelphia, who emphasized the achievements of women of the medical profession and the greater opportunities before them.

Bequests.—The Church Home for Crippled Children at Angora is bequeathed $3,000 by the will of the late Emily B. Harrison, Philadelphia. The Presbyterian Hospital, Philadelphia, is bequeathed $2,500 by the will of the late Matilda James, Philadelphia, for the endowment of a free bed. St. Joseph's Hospital, Philadelphia, $1,000 by the will of Marcella Ennis.

Army Hospital Closed.—The War Department at Washington, on June 26, announced the closing of the United States Hospital at the Philadelphia Hospital (Blockley) soon. The closing of the local army hospital, along with similar government institutions throughout the country, is due, it was stated, "to the successful treatment and discharge of a great number of overseas cases."

Decrease of Typhoid Fever in Philadelphia.—Dr. Wilmer Krusen has reported that the number of cases of typhoid fever in Philadelphia has been reduced from 6 587 in 1904 to 388 in 1918. The figure for 1918 shows a reduction of 38 per cent. from the total of 625 in 1917. Philadelphia now has a typhoid rate of 3.0 for every 100,000 of population; in Chicago the rate is 1.4, and in Boston 2.5.

Dr. James A. Babbitt, Philadelphia, after nearly two years spent in reconstruction work in France, has returned home. Dr. Babbitt accomplished much for the Friends' Victims Relief Committee, under whose auspices he worked in the hospital at Sermaize. For the last four months before leaving for home Dr. Babbitt worked under the American Red Cross, having been commissioned a major in the Red Cross Corps.

Jefferson Medical College of Philadelphia, at the ninety-fourth annual commencement exercises, June 7, at which time a class of 142 was graduated, conferred the degree of doctor of laws on Major-Gen. Merritte W. Ireland, Surgeon-General, U. S. Army, and Vice Admiral Grieve. General Ireland, in his address, lauded the company of soldiers who submitted themselves as volunteers for experiments with disease-bearing lice to determine the cause of trench fever.

The University of Pennsylvania held its 163d annual commencement exercises, June 19, at which 890 students received degrees. An unusual feature of the exercises was the conferring of degrees on twenty-seven undergraduates who gave their lives for their country in the war. Major-Gen. Leonard Wood delivered the annual oration to the graduates, urging help for returning soldiers, cooperation between capital and labor, and a campaign against bolshevism, emphasizing the need of preparedness.

Navy Yard Hospital Formally Opened.—Fourteen buildings housing one of the most modern hospitals in Philadelphia were formally opened June 3. The exercises were in charge of Commander R. C. Holcomb, who has been identified with naval hospital work for the past twenty years. The buildings are modern in every detail; nine are to be used for wards, two for hospital corps barracks, and one will accommodate seventy nurses. The buildings begun last September will relieve the old hospital which is overcrowded with patients.

Prevention vs. Indemnity—Commissioner Martin's Reply.—Commissioner Martin realizes that if we are to win this war for the prevention and cure of disease, those who enlist must be trained just as soldiers are equipped for their service. The analogy is further carried out by the training camp which has been established at Mont Alto. "There are 6,000 men and women employed in the health department of Pennsylvania," says Dr. Martin. "Every one of these 6,000 must, within the next six months, bring ten new members into the organization. We are going to educate the people to take care of themselves and to take care of their children.

More Power for Commissioner of Public Health.—The Senate on June 24, passed finally the House Bill broadening the powers of the Commissioner of Health and the Advisory Board under the Quarantine Act of 1915. The measure now goes to the governor. Under the bill the Commissioner of Health with the approval of the advisory board may determine what are communicable diseases and provides for the quarantine of such diseases and their treatment. The law was found necessary after the difficulty encountered in the influenza epidemic last fall. The act also enables the department of health to carry out its venereal campaign in a conservative manner.

Drug Violators Lose Licenses.—The State Bureau of Medical Education and Licensure has revoked the licenses of seven medical men for alleged violation of the drug act, suspended five and revoked for three months the license of another who is serving a sentence for sedition. The latter is Dr. Elizabeth Baer, Philadelphia, convicted for seditious utterances. The revocation and suspensions are the first of the kind to be made by the bureau, which is authorized to do so by the act creating it and also by the drug act of 1917. Those whose licenses were revoked are Dr. Davis A. Dean, Pittsburgh; Dr. John C. Baetson, Scranton; Dr. John F. Fox and Dr. O. Brun, Pittsburgh; Dr. Thomas R. Francis, Connellsville; Dr. William H. Rote, Williamsport, and Dr. Henry Lewis, Erie. Those whose licenses were suspended are: Dr. William Penn Buck, Lansdowne; Dr. Henry Agustus Ziegler, York; Dr. George R. Welchans, Lancaster; Dr. Charles G. Hayes, Montoursville, and W. W. Senn, Williamsport, Pa.

GENERAL NEWS ITEMS

The American Proctologic Society held its twentieth annual meeting in Atlantic City, June 7 to 9.

The American Academy of Medicine held its forty-third annual meeting in Atlantic City, June 9 and 10. The program was given over to "War Problems and Sociologic Medicine."

The Colorado Congress of Ophthalmology and Oto-Laryngology will be held in Denver, Colo., August 4 and 5, 1919, in the County Society Assembly Hall, Metropolitan Building.

Major-Gen. Merritte W. Ireland was advised on June 10, that the British government had conferred on him the Cross of the Companion of the Bath in recognition of his services as Chief Surgeon of the American Expeditionary Forces, and later as Surgeon-General of the American Army.

The Medical Veterans of the World War, at its meeting in Atlantic City, June 12, elected the following officers: President, Col. Victor C. Vaughan; vice president, Admiral E. R. Stitt; secretary-treasurer, Col. F. F. Russell; trustees, Gen. F. A. Winter, Col. George E. Brewer, Asst. Surg.-Gen. James C. Perry, Dr. John M. Dodson, Col. Hubert Work, Dr. Holman Taylor, Col. Joel E. Goldthwaite.

The West Virginia State Medical Association, at its fifty-second annual meeting, at Clarksburg, May 20-22, elected the following officers: President, Dr. Henry R. Johnson, Fairmont; vice presidents, Drs. Benjamin F. Shuttleworth, Clarksburg, Walter E. Vest, Huntington, and Joseph L. Miller, Thomas; secretary, Dr. J. Howard Anderson, Marytown; treasurer, Dr. Hugh G. Nicholson, Charleston.

The Medical Society of New Jersey, at its 153d annual meeting, at Spring Lake, N. J., June 24-25, elected the following officers: President, Dr. Gordon K. Dickinson, Jersey City; vice presidents, Drs. Philander A. Harris, Paterson, Henry B. Costill, Trenton, and James Hunter, Jr., Westville; corresponding secretary, Dr. Harry A. Stout, Wenonah; recording secretary, Dr. William J. Chandler, South Orange, and treasurer, Archibald Mercer, Newark.

The Peking Union Medical College, Peking, China, which has been built under the direction of the Rockefeller Foundation, will open for instruction of students in October. The college, which will be coeducational, will give a four years' course in medicine and an additional year of special work in hospitals or in laboratories. There is also a premedical school, opened in September, 1917, which offers a three years' course preparatory to admission to the medical school.

The Congress of American Physicians and Surgeons, at its meeting in Atlantic City, June 16-17, elected the following officers: President, Dr. Victor C. Vaughan, Ann Arbor; honorary vice presidents, Sir William Osler, Oxford, and Col. George E. Bushnell, Washington; vice presidents, Drs. Gerald B. Webb, Colorado Springs, and John M. Glenn, New York City; secretary, Dr. Henry B. Jacobs, Baltimore; treasurer, Henry B. Platt, New York City. The next triennial session will be held in Washington in 1922.

The United States Interdepartmental Social Hygiene Board, through its executive secreary, Dr. T. A. Storey, Washington, D. C., has announced the following recent appropriations from the Scientific Research Fund of the Board: Johns Hopkins Medical School (under the direction of Hugh H. Young, M.D., professor of urology, and J. T. Geraghty, M.D., associate professor of urology : (1) Development of new synthetic drugs for the treatment of gonorrhea, under the direction of E. C. White, Ph.D., experimental chemist; (2) manufacture and investigation of a series of new organic compounds in the treatment of syphilis, under the direction of David M. Davis, M.D.; (3) manufacture and investigation of a series of penetrating organic dyes in the treatment of chancroids, under the direction of E. O. Swartz, M.D.; (4) experimental study of various methods of early treatment of venereal infection with the object of developing simpler technic, more efficient and less expensive drugs, under the direction of William Jack, M.D. University of Wisconsin Medical School: An attempt to prepare mercurial and arsenical compounds which have a predilection for the central nervous system, in the hope of finding drugs more useful than any known in the treatment of syphilis of the central nervous system, under the direction of Arthur S. Loevenhart, M.D., professor of pharmacology. University of Nebraska College of Medicine: (1) Investigation relative to the development of an internal urinary antiseptic; (2) investigation of the value of certain anilin dyes in the treatment of gonorrhea, both under the direction of E. G. Davis, M.D., director of pathological laboratory. St. Louis University College of Medicine: Studies in infection by gonococci, under the direction of R. A. Kinsella, M.D., director of department of experimental medicine. Woman's Medical College of Pennsylvania: A seriological study of syphilis in pregnant women and newborn children with special reference to the efficacy of the accepted methods of syphilitic treatment, under the direction of Berta M. Meine, M.D., director of research department. Washington University School of Medicine: The laboratory (biological) investigation of the latent syphilitic as a "carrier," under the direction of Martin F. Engman, M.D., professor of dermatology. Cornell University Medical College: Seriological study of the gonococcus group, under the direction of John C. Torry, Ph.D., professor of hygiene. Jefferson Medical College of Philadelphia: A series of studies for the recognition and diagnosis of treponema pallidum in venereal diseases, and the effect of various drugs and materials as germicidal agents against treponema pallidum, under the direction of Randle C. Rosenberger, M.D., professor of hygiene and bacteriology. Yale University Medical School: (1) Effect of anilin dyes, particularly gentian violet on the gonococcus with reference to the growth of the organism in media containing the dye, and with reference to the effect on organisms in tissue (therapeutic effect), under the direction of J. M. Flint, M.D., and J. W. Churchman, M.D., professors of surgery; (2) an intensive study of methods for the isolation and identification of the gonococcus with a view to the determination of the homogeneity or heterogeneity of strains and their etiological relationships, under the direction of George H. Smith, M.D., assistant professor, department of pathology and bacteriology; (3) the demonstration of syphilitic nature of unusual lesions encountered at the postmortem table, under the direction of M. C. Winternitz, M.D., professor of pathology and bacteriology. Union University Medical Department, Albany: For studies on the nature of the Wassermann reaction, under the direction of Thomas Ordway, M.D., dean and associate professor of medicine. The United States Interdepartmental Social Hygiene Board is composed of Carter Glass, Secretary of the Treasury; Newton D. Baker, Secretary of War; Josephus Daniels, Secretary of the Navy; Lieut.-Col. W. F. Snow, Medical Corps, U. S. A.; Lieut.-Com. J. R. Phelps, Medical Corps, U. S. N.; Asst. Surg.-Gen. C. C. Pierce, U. S. Public Health Service; Thomas A. Storey, Executive Secretary.

BULLETIN EXCERPTS

THE BULLETIN, BERKS

The Victory Meeting of the American Medical Association

The annual meeting of the American Medical Association for 1919 has again become history.

Sixteen sections represented the scientific work. Each section held only one daily session, some meeting in the forenoon and some in the afternoon, thus permitting one to attend section meetings other than the one of special interest.

All the general meetings were of exceptional interest. Enthusiasm was the keynote, especially at the Victory Meeting Wednesday evening, and at the Thursday afternoon meetings, where the invited foreign guests briefly spoke.

Would I could give you a brief abstract of the wonderful papers and discussions presented at the different section meetings. The diversity and wealth of material presented in those three days is remarkable. Keen interest, enthusiasm and good fellowship were everywhere in evidence. While many of the papers will be published in *The Journal of the American Medical Association* in the course of the year, many others will not, simply for lack of space. What a valuable thing it would be to our members if a copy of the transactions of every section were purchased and placed on our library shelves.

The writer being especially interested in genito-urinary and skin diseases, attended only the sessions of those sections. Among the high lights he would especially mention the papers by Dr. William J. Mayo, on "Hematogenous Infection of the Kidneys"; by Dr. Alfred J. Ochsner, on "Clinical Observations in the Treatment of Nephrolithiasis"; by Dr. Hugh H. Young, on "The Work of the Department of Urology in the A. E. F."

The Section on Dermatology devoted especial attention to syphilis, and the campaign against venereal diseases. To treat syphilis properly means more than technic to administer certain remedies, important as such technic may be. Especial emphasis was laid on a simplified technic, permitting the administration of effective dosage in office practice and at such reduced cost as to place our treatment within the financial reach of the multitudes that need it. That this can be done was very convincingly shown by Dr. Hugh H. Young, who knew of 300 syphilitics receiving intravenous treatment at the hands of one operator in one forenoon. That the campaign against venereal diseases is well under way became evident through the discussions following the splendid papers of Drs. H. G. Irvine and H. N. Cole. It seems that Pennsylvania has not quite caught up with this great movement which seems to be under full headway, especially in some of our mid-western states. It is a certainty that our state will not bring up the rear in this very laudable public health work.

The Casino contained the various exhibits, of which the one on the use of radium in skin tumors was interesting, surprising and very valuable. Scientifically speaking, A. S. Warthin's exhibit on the pathology of mustard gas poisoning (photographs and pathological specimens) was the finest there. In the Exposition Building the Army, Navy and Public Health Services had a most wonderful exhibit. The medical, surgical and laboratory work of each service was beautifully shown. The plastic work in oral surgery as shown by models and casts is considered the finest ever produced. The Children's Bureau, the Bureau of Chemistry, the Bureau of Census and many other educational exhibits, private and public, were represented in a way to be helpful to all interested. The commercial exhibits, all of a very high class, were both practical and instructive. Here you could find what you wanted, whether it was a recent publication or a new instrument or mechanical device, with attendants fully capable and willing to explain intelligently their respective products. And what a relief not to be loaded down with patent medicine and proprietary food samples.

The recent issues of *The Journal* publish the principal addresses and matters of interest. They are all deserving of a careful reading. What a pity that only about fifteen of our members attended this meeting—a victory meeting in every sense. Of course some were prevented by stress of work, for the doctor cannot always leave his work even when he ought to; but the real pity is for those who feel that it is not worth while to attend these meeings.

THE WEEKLY BULLETIN, ALLEGHENY

1919 A. M. A. Convention

One hundred and forty-five members of the Allegheny County Medical Society registered at Atlantic City. The total registration approximated 5,000. The amazing scope of the service of the association to physician and layman alike is graphically portrayed in *The Journal of the American Medical Association* under date of June 14, 1919. Your careful perusal of pages 1738 to 1769 is earnestly recommended. Your chest should swell with pride in your Fellowship in the organization.

The speaker of the House of Delegates said of physicians and nurses:

"Thoughtful men agree that we are entering on a new era in medicine, which will compel the closest interrelation between physicians, hospitals, nursing and the public. It is not probable that practice will again be followed as heretofore. The time is passing when the personality and skill of a single physician will satisfy his patrons, or command a fee measured only by the patient's ability to pay, for skill is no longer limited to a few. Teamwork of physicians and the evolution of the hospital, which provides for all domestic and medical service, has given the public an economic idea which will hereafter direct the practice of medicine. Cities and large towns already have their hospitals; rural communities soon will have, state aided no doubt, for it is a short step from state care of the insane to the state care of all sick.

"We should recognize that conditions confronting communities affecting physicians, apply equally to nurses. The average nurse is graduated with a feeling that her period of service has ended and her reign begun. This is an intolerable economic attitude. The average householder can not afford to employ servants for servants indefinitely, and he is already looking to the medical profession for relief in home care for his sick. The public needs practical nurses, trained in cleanliness and taught to do what is necessary to be done for the comfort of the household, including the sick.

"The general practitioner of medicine must come back, and a temporary substitute for the stricken mother must be trained and qualify for duties associated with the sick in the home.

"There are duties before the association, professional rather than scientific, which will call for exceptional devotion, patient service and skilful guidance. No body of men has keener insight, clearer vision, or higher motives. Weigh well your responsibilities."

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Reconstruction Therapy. By William R. Dutton, Jr., M.D., Assistant Physician at Sheppard and Enoch Pratt Hospital, Towson, Md.; Instructor in Psychiatry, Johns Hopkins University. 12mo of 236 pages; 30 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $1.50 net.

Diet in Health and Disease. By Julius Friedenwald, M.D., Professor of Gastro-Enterology in the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore; and John Ruhrah, M.D., Professor of Diseases of Children in the University of Maryland and College of Physicians and Surgeons, Baltimore. Fifth Edition, Thoroughly Revised and Enlarged. Octavo of 919 pages. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $6 net.

The Blind. Their Condition and the Work Being Done for Them in the United States. By Harry Best, Ph.D., Author of "The Deaf; Their Position in Society and the Provision for Their Education in the United States." 763 pages with Index. New York: The Macmillan Company, 1919. Price, $4.

The Operations of Obstetrics. Embracing the Surgical Procedures and Management of the More Serious Complications. By Frederick Elmer Leavitt, M.D., Formerly Assistant Professor of Obstetrics and Gynecology, University of Minnesota; Obstetrician to the City and County Hospital, the St. Paul Hospital, the Bethesda Hospital, etc., St. Paul, Minn. With 248 illustrations. St. Louis: C. V. Mosby Company, 1919. Price, $6.

Sex and Sex Worship (Phallic Worship). A Scientific Treatise on Sex, Its Nature and Function, and Its Influence on Art, Science, Architecture, and Religion—with Special Reference to Sex Worship and Symbolism. By O. A. Wall, M.D., Ph.G., Ph.M., Author of "Handbook of Pharmacognosy," "The Prescription," "Elementary Lessons in Latin," etc. With 372 Illustrations. St. Louis: C. V. Mosby Company, 1919. Price, $7.50.

General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, Ill. Volume I, Part 1, Assisted by Burrell O. Raulston, M.S., M.D., Resident Pathologist, Presbyterian Hospital. Part 2, Assisted by Bernard Fantus, M.S., M.D., Associate Professor of Therapeutics, Rush Medical College, Chicago. The Practical Medicine Series; Comprising Eight Volumes on the Year's Progress in Medicine and Surgery. Series 1919. Chicago: The Year Book Publishers, 304 South Dearborn Street. Price of this volume, $2.50; Price of series, $10.

BOOK REVIEWS

SURGICAL CLINICS OF CHICAGO. April, 1919. 63 illustrations; pp. 237-479. Philadelphia and London: W. B. Saunders Company.

This number of the surgical work of important operators in Chicago continues the interesting and well-illustrated clinical records printed in previous issues of this professional medium. Fractures, harelip and cleft palate, plastic repair and intestinal conditions are treated in the characteristically practical manner which readers have come to associate with the surgeons of Chicago. Successive numbers of this publication always prove of personal value to the present reviewer. J. B. R.

THE MEDICAL CLINICS OF NORTH AMERICA. New York Number, Volume II, Number 4, January, 1919. Octavo, 303 pages, with 60 illustrations. Philadelphia and London: W. B. Saunders Company.

This volume contains fourteen contributions of varying degrees of interest and merit by representative clinicians of New York City and dealing with topics in different fields of medicine. Dr. S. W. Bandler devotes a clinic to sterility in women, with special reference to endocrine treatment. Dr. Walter Timme furnishes an article dealing with a new pluriglandular compensatory syndrome, while Dr. Eugene F. DuBois discusses in a clinic the basal metabolism as a guide to the diagnosis and treatment of thyroid disease. Dr. Walter W. Palmer in a clinic considers pneumococcic endocarditis, and Dr. Albert R. Lamb treats of nonhemolytic streptococcic endocarditis. Dr. T. Stuart Hart deals with mitral stenosis and auricular fibrillation, and Dr. A. McI. Strong reports two cases of auricular tachycardia in children. Dr. Leo Buergar devotes a clinical talk to the diagnosis of cystitis, and Dr. Dana W. Atchley gives a clinic on renal disease. Some aspects of the modern treatment of diabetes mellitus are considered in a clinic by Dr. Henry Rawle Geyelin. In a clinic Dr. Jesse G. M. Bullowa discusses local evidence of tonsil involvement in the causation of distant or systemic disease, and influenza of the head and chest. Cases illustrating diagnostic problems are presented in a clinic by Dr. A. S. Blumgarten as follows: (1) Primary malignant tumor of the lung; (2) cerebrospinal syphilis; (3) nephritis; (4) aortic syphilis. Dr. Willy Meyer in a clinic discusses advanced pulmonary tuberculosis as a borderland disease. Dr. William H. Sheldon furnishes an article on the hospital as a health unit. E.

COUNTY SOCIETY REPORTS

CHESTER—MAY

The Chester County Society, which met in Coatesville, May 20, was unusually well attended by local physicians. After the reading of the minutes of the last meeting and their approval, a letter was read from the Antituberculosis League asking that the society devote one of its meetings to the subject of tuberculosis and make it open to the public. Discussion was not favorable to public meetings of the society, but as there were so few members present from West Chester the letter was laid on the table until the next meeting.

Dr. Leon Gans of the State Department of Health at Harrisburg then gave an instructive talk on the control of venereal disease. He emphasized the possibilities of controlling venereal disease provided the physicians and public are sufficiently interested and active. By statistics showing that the army was more free from venereal disease than the civil population, he proved that if army methods could be applied to civil population the disease could be practically stamped out. He believes that the reporting of venereal disease whether by name or number will not be a success in the states where it is being tried, but that by the education of the public, especially the women of the state, and by the proper enforcement of existing laws, the quarantining of carriers, etc., enormous good can be accomplished. He said that the "quack" specialists and the advertising specialists are among the most fertile sources for the spread of these diseases, and that he will do all in his power to aid the county societies in eliminating the objectionable practitioners.

At the conclusion of Dr. Gans' talk the society adjourned for lunch, postponing the remainder of the program until the next meeting, as Dr. Gans was compelled to take the 4:45 train to Harrisburg.

Charles H. Stone, Reporter.

CLEARFIELD—JUNE

The meeting of the Clearfield County Society, June 18, was preceded by a luncheon at the Central Hotel. Drs. King, Blair and Ake had arranged this feature and it was enjoyed by all present. Vice President Blair called the meeting to order and the routine business was transacted.

The subject for the scientific program was "Obstetrics." Dr. H. A. Blair read a paper on "The Care of the Expectant Mother." The importance of this care from early pregnancy to confinement was detailed, as well as the frequent lack of it in the smaller communities and rural districts, especially where there is a large foreign element. A large number of those present took part in the discussion. Drs. Andrews and L. F. Stewart spoke of the surgical complications of pregnancy and related some interesting personal experiences.

Dr. J. M. Quigley presented his resignation as treasurer of the society which was accepted with a vote of thanks for his services, and Dr. W. O. Wilson, who held this important office previous to his entering service, was unanimously elected to again assume the guardianship of our exchequer. A committee was appointed to interest the district attorney in the enforcement of the registration of midwives. Dr. W. G. Falconer, of the 1919 class of the Jefferson Medical College and who is about to take up his period of residency at the Altoona Hospital, was a visitor, as was Orville C. King of the class of 1923 of the University of Pennsylvania, and a son of Dr. H. O. King of our society.

J. Paul Frantz, Reporter.

FAYETTE—JUNE

The Fayette County Society met in Uniontown, June 5. After the routine business President Baum introduced Dr. Ernest W. Willetts of Pittsburgh, who gave an instructive talk on "Encephalitis Lethargica." After reviewing the literature of the subject, he gave a detailed report of many cases he had recently observed in consultation in and near Pittsburgh. The differential diagnosis was dwelt on with care, and especial emphasis was laid on certain conditions which should not be confused with botulism.

The society was well represented from all parts of the county, and those physicians who fail to attend the meetings are missing some most excellent papers and discussions. With very few exceptions the men are back from the service, and all future meetings should be even more interesting. The medical and surgical subjects brought before the society at present are all along practical lines, just what the regular practitioner in medicine meets daily, and consequently of much value to each individual member. The officers of the society are doing all in their power to make this society a success, so try to help by your presence. Charles H. Smith, Reporter.

FRANKLIN—JUNE

The Medical Society of Franklin County met at the home of Dr. John W. Croft, Waynesboro, June 17, with twenty members and four guests present. A letter from the Chambersburg Civic Club acknowledging the donation of the books, "Child Welfare," and

"Inspection of Schools" to the Chambersburg Public Library was read.

"Tuberculosis of Bones, Diagnosis and Treatment," was discussed by Drs. A. Barr Snively and J. Burns Amberson of Waynesboro and Dr. Peregrine Wroth of Hagerstown, Md. Dr. Snively spoke of the use of tuberculin in the diagnosis. Dr. Wroth defined lines of treatment; he spoke of treatment of joints by section and urged the importance of putting the limb in the position that would be the most useful to the individual in the naturally ankylosed condition which occurs.

Dr. Lewis H. Seaton of Chambersburg, having recently been discharged from the military service, gave an interesting talk on his experience and observation during his service in England and France. He detailed not only medical and surgical experience but observations during the fighting as well as in civil life. He spoke of the devoted relation of the French people toward the American soldier and of the courteous attention by the British. The day before the meeting he was the recipient of a letter apprising him of an award of the decoration of the "British military cross for special service."

Following the meeting the members and guests were served with refreshments by Dr. and Mrs. Croft.

John J. Coffman, Reporter.

SOMERSET—MAY

The Somerset County Society met on May 20 with fifteen members present, the largest attendance for more than a year. A visit from Dr. Spencer M. Free, councilor for the district, was anticipated but at a late hour information was received that he had gone to the Pacific Coast to regain health lost by active duty during the influenza epidemic. The president elect of the society for this year addressed the members, expressing great pleasure that so many were present, that he had the success of the society and of every individual member at heart, but that he could do but little to bring about success without the assistance of all the members and especially the assistance of the officers and committeemen appointed; if all work together the meetings can be made so interesting that no member will want to be absent. It is not enough that we belong to the society but we should sacrifice a little of our time; a few hours every two months should be devoted to the interests of the members, the community, and to the profession to which we belong. A "tuberculosis meeting," to which the public will be invited, is being arranged for the next meeting. Dr. C. P. Large, Meyersdale, was elected delegate to the Harrisburg Session of the state society and Dr. J. D. Marsden, Somerset, alternate. One dollar was received from each member present for legislative work and forwarded to the secretary of the state society. In a discussion on "Vomiting in Pregnancy," almost as many remedies as there were participants in the discussion were suggested.

H. C. McKinley, Reporter.

WARREN—MAY

The Warren County Society met at Dr. Durham's residence, May 19, with eighteen members present. The Workmen's Compensation Laws came up for discussion. Dr. M. T. Smith said that the bill proposed by the labor organization would if it became a law be a great advance over the present act. It would increase the compensation for medical services to what it should be and he urged that our committees and members cooperate with the labor organization in pushing this bill.

Dr. Paul Weston advocated having a complete history of medicine of Warren County. A biographical record of every physician that has practiced here would be valuable and could be obtained with less trouble now than later. A committee was appointed to collect the material.

Dr. J. W. Hamilton gave a résumé of the dietetic treatment of diabetes as practiced at the Hospital of the University of Pennsylvania.

Dr. Weston described in brief the kind of tests made on the blood, such as the test for sugar, the test for urea, for creatin and for creatinin. These tests when made in conjunction with tests of the urine are of value in judging the efficiency of the kidneys. It is recognized that a chemic examination of the blood for creatinin may determine an oncoming attack of uremia although the urine gives no indication of a serious kidney disturbance.

The members were invited to partake of supper prepared by Mrs. Durham, which invitation met with a hearty response. We believe this social feature of our meetings does much to keep our members on good terms one with another, and attendance at the meetings contributes considerably to the good and welfare of the medical profession. Our county is remarkably free from petty professional (?) quarrels and animosities and it is 95 per cent. organized.

M. V. Ball, Reporter.

WASHINGTON—MAY

The Washington County Society met in the Armory, Washington, at 2 p. m., May 13. The meeting was devoted entirely to the memory of the late Dr. John B. Donaldson of Canonsburg, who died in 1912. It was an open meeting and largely attended, about forty members of the profession being present, with visiting nurses and friends. A portrait of Dr. Donaldson, the gift of his son, Dr. Walter F. Donaldson of Pittsburgh, was presented to the society, the presentation address being made by Dr. R. E. Connor of Hickory.

Among the things spoken of by Dr. Connor was the early education of Dr. Donaldson, which was obtained in the Western Reserve University Medical College, Cleveland, graduating with the class of 1872. He soon after located in the practice of his profession in Pittsburgh, a short time thereafter in Bridgeville, and in 1878 he located in Canonsburg, where he practiced the remaining portion of his life. He was a public-spirited citizen, serving his home town as burgess and as school director, the latter office for a number of years. In 1888 he was elected to the state legislature and served one term.

Dr. Donaldson joined the Washington County Medical Society in 1878, became its president in 1886 and its secretary in 1899, which office he held until the time of his death. He was a member of the Medical Society of the State of Pennsylvania and was elected its president in 1910. He was the first to edit a medical program for a county society. This paper, which was put out monthly, has been adopted in many states and in nearly every county in Pennsylvania. He was a firm believer and a pioneer in organization work as a means of raising the standard of the medical profession. His work was felt not only in his county and state societies but in the American Medical Association as well. On account of his rescue work at the time of the Johnstown flood the governor of Pennsylvania conferred on Dr. Donaldson a special certificate of commendation. Perhaps the highest tribute paid him by Dr. Connor was this: "It may be truthfully said that he did more than any other man to elevate his county society to the high plane on which it now stands." The secret of his success was that his whole heart, mind and energy were in the work, bound to make it go.

Dr. Donaldson organized the first state conference of county secretaries, an organization producing untold good to the medical profession in Pennsylvania. It is now one of the prominent features of the annual meeting of the state society.

Following Dr. Connor's address, Drs. Sprowls, Kelso, Snodgrass and others spoke briefly of the many good qualities of Dr. Donaldson, especially of his interest, sympathy and helpfulness to the younger members of the profession. Among the many things which endeared him to his fellow associates were his social qualities, so open, cordial and frank that when you met him you could not help but feel that he was truly a friend. The spirit of Dr. Donaldson's life cannot be better stated than in his own words which we quote from his address at Harrisburg, and which he made as president of the state society: "Let us one and all with clasped hands pledge ourselves that we will do whatever comes in our way to help a brother, whether he ask it or not, whether he deserve it or not, living clean, wholesome lives above reproach, and when that day shall come, for come it will, and soon to some of us, when we will solve the mystery of the great beyond and pass

'To that mysterious realm, where each shall take
His chamber in the silent halls of death,
Thou go not like the quarry slave at night,
Scourged to his dungeon, but sustained and soothed
by an unfaltering trust, approach thy grave
Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams.' "

After luncheon the response was made by Dr. Walter F. Donaldson, Pittsburgh, who was also at one time president of the state society and now its secretary. Dr. Donaldson reviewed briefly the advantages and the excellent work done by the state medical society and gave some wholesome advice to the members of the medical profession.

Dr. C. T. Dodd, Washington, responded to the toast, "The County Medical Society." His remarks were full of historical interest and professional reminiscences and abounded with the genial humor for which the doctor is noted.

Dr. A. E. Thompson, Washington, read a valuable and interesting paper dealing with the historical side of the army service. This created such an impression that it was at once decided to appoint a committee to prepare a history of the Washington County Medical Society, having special reference to the volunteer physicians and the war service, and also to include an account of the nurses who so bravely and patriotically volunteered for war service. The speaker reported that during the war sixty-seven of the physicians of Washington County had volunteered and been accepted in the federal service, and that twenty-three others who were either too old for service or rejected on account of physical disability became members of the Volunteer Medical Service Corps, making a total of ninety volunteers, more than half the physicians of the entire county.

F. I. Patterson, Reporter.

NECROLOGY

IN MEMORIAM

Woods Frederick Derr, M.D.

Dr. Woods Frederick Derr of Williamsport, died at 7:30 o'clock, Monday morning, May 26, 1919, at the home of his father, Dr. F. S. Derr, at Watsontown. Dr. Derr was born in Watsontown, Oct. 10, 1889. He was educated in the public schools there, graduating from the Watsontown High School in 1907. He completed his education at Bucknell University, from which institution he graduated in 1911, and at Johns Hopkins Medical School in 1915. He was a resident physician at the Williamsport Hospital for more than a year, followed by a year of private practice in this city. He was then retained by the Pennsylvania Railroad Company and sent to Renovo, where he remained fourteen months. He removed to Williamsport in January of this year, resuming his connection with the hospital. He had purchased a home on Pine Street and was preparing to occupy it and again resume his private practice when he was taken ill. He was married in April, 1917, to Miss Sarah Wolfe of Chambersburg, who survives him. Funeral services were held at the home of his father at Watsontown on Thursday, May 29, at 2:30.

Resolved, That the Lycoming County Medical Society records its profound respect for Dr. Derr and its sense of great loss through his death. "He set an example of service and self-sacrifice which is inspiring." The society extends to his father, his wife and members of his family their deepest sympathy, and joins with them in mourning the loss not only of a splendid member of our society but a most excellent physician.

Resolved, That a copy of these resolutions be sent to his family and that they be published in the daily papers of Williamsport.

W. E. Delaney,
J. P. Harley,
G. Franklin Bell,
Committee.

THE TRUTH ABOUT MEDICINES

PROPAGANDA FOR REFORM

Collosol Preparations.—The Council on Pharmacy and Chemistry reports that Collosol Argentum, Collosol Arsenicum, Collosol Cocain, Collosol Cuprum, Collosol Ferrum, Collosol Hydrargyrum, Collosol Iodin, Collosol Manganese, Collosol Quinin and Collosol Sulphur are inadmissible to New and Nonofficial Remedies because their composition is uncertain. In the few cases in which the therapeutic claims for these preparations were examined, the claims were found so improbable and exaggerated as to have necessitated the rejection of these products on this account. The term "Collosol" appears to be a group designation for what are claimed to be permanent colloidal solutions, marketed by the Anglo-French Drug Company, Ltd., London and New York. Were this claim correct, the Collosols should contain their active constituent in the form of microscopic or ultramicroscopic suspensions. The Council was, however, obliged to question the colloidal character of the preparations. A number of samples submitted to the Council had separated and Collosol Hydrargyrum was not a colloidal solution at all; also the ampules of Collosol Ferrum Contained a flocculent precipitate. If either of these two preparations were injected intravenously as directed, death might result (*Jour. A. M. A.*, June 7, 1919, p. 1694).

Pulvoids Calcylates Compound.—The Council on Pharmacy and Chemistry publishes a report on Pulvoids Calcylates Compound (The Drug Products Co., Inc.), not so much because the preparation is of any great importance, but as a protest against the large number of similar irrational complex mixtures which are still offered to physicians. These "Pulvoids" are tablets, each of which is said to contain "Calcium and Strontium Disalicylate 5 grs., Resin Guaiac ½ gr., Digitalis ¼ gr., Colchium (Colchicum) Seed ¼ gr., Squill ¼ gr., Cascarin 1/16 gr. with aromatics." They were advertised among "Approved Remedies for La Grippe and 'Flu.'" . . . The Council admits that salicylates have a field in influenza in that they often afford relief from pain. There is no reason to suppose that a mixture of strontium and calcium salicylate—the calcium and strontium disalicylate of the "Pulvoids" is probably a mixture of strontium and calcium salicylates—has any greater salicylic effect than an equal amount of sodium salicylate. On the other hand, it is worse than useless to give colchicum, squill and digitalis for the relief of such pain. No educated physician will give resin of guaiac and "cascarin" in fixed proportions with salicylates (*Jour. A. M. A.*, June 14, 1919, p. 1784).

Antithyroid Preparations (Antithyroidin-Moebius and Thyreoidectin) Omitted from N. N. R.—New and Nonofficial Remedies, 1918, contained a discussion of "antithyroid" preparations and described two of these: Antithyroidin-Moebius (E. Merck, Darmstadt, Germany) and Thyreoidectin (Parke, Davis and Company, Detroit, Mich.). The "antithyroid" preparations have not realized the expectations of their promoters, and are viewed with skepticism by practically all critical clinicians. Consequently, notwithstanding the cautiously worded claims made for Thyreoidectin, the Council voted to omit this preparation from New and Nonofficial Remedies (Antithyroidin-Moebius had already been omitted because it was off the market) (Reports Council Pharm. and Chem., 1918, p. 50).

Borcherdt's Malt Extract with Alteratives.—Each fluid ounce of this was claimed to contain iodin 1/30 grain, calcium iodid 1 grain, potassium iodid 2 grains, calcium chlorid 8 grains. The preparation was declared inadmissible to New and Nonofficial Remedies: (1) because it did not contain free iodin as claimed; (2) because it was needlessly complex, and therefore irrational; (3) because the name of the preparation is not descriptive of its composition, but therapeutically suggestive (Reports Council on Pharm. and Chem., 1918, p. 51).

Cephaelin and Syrup Cephaelin-Lilly Omitted from N. N. R. and Syrup Emetic-Lilly Not Accepted.—New and Nonofficial Remedies, 1918, described cephaelin (an alkaloid obtained from ipecacuanha root) and listed Syrup Cephaelin-Lilly as a pharmaceutical preparation of it. In 1918 Lilly and Company advised that the name of its preparation had been changed to Syrup Emetic. The Council directed the omission of Syrup Cephaelin-Lilly and voted not to admit Syrup Emetic because the name does not indicate the potent ingredient of the simple pharmaceutical preparation and in that it is therapeutically suggestive. Emetics are powerful agents, and preparations containing them should not be sold under noninforming names. As the cephaelin syrup was the only preparation of cephaelin admitted to New and Nonofficial Remedies and as the alkaloid appears to have no important therapeutic field, the Council also omitted cephaelin from the book (Reports Council Pharm. and Chem., 1918, p. 52).

Colalin Omitted from N. N. R.—Colalin is a bile salt preparation claimed to consist essentially of hyoglycocholic and hyotaurocholic acids. It is manufactured by Rufus Crowell and Company, Somerville, Mass., and marketed by Schieffelin and Company. An examination of the current advertising for Colalin revealed that claims were made for it which were not in harmony with the known actions of bile preparations. As these claims were not substantiated by evidence nor revised in accordance with a request sent to the manufacturer and the agent, the Council directed the omission of Colalin from New and Nonofficial Remedies (Reports Council on Pharm. and Chem., 1918, p. 52).

Diphtheria Bacillus Vaccine Omitted from N. N. R.—The Council directed the omission of diphtheria bacillus vaccine from New and Nonofficial Remedies because the manufacturer of the only preparation of this vaccine advised that its sale had been discontinued (Reports Council Pharm. and Chem., 1918, p. 54).

Empyroform Omitted from N. N. R.—Empyroform is a condensation product of birch tar and formaldehyde. The Council voted to omit the preparation from New and Nonofficial Remedies because its usefulness is doubtful and because the agents were not in a position to submit further evidence for its value (Reports Council on Pharm. and Chem., 1918, p. 55).

Foral.—Foral is a depilatory preparation sold with special claims for its use for the removal of hair prior to surgical operation or the dressing of wounds. The Council declared Foral inadmissible to New and Nonofficial Remedies: because it is an unessential and irrational modification of the well known depilatory composed of barium sulphid 2 drachms, zinc oxid 3 drachms and starch 3 drachms, and because it is marketed under a noninforming name and with unwarranted claims (Reports Council on Pharm. and Chem., 1918, p. 55).

Glycerosal.—This was said to be a mixture of glyceryl salicylates prepared by heating methyl salicylate with glycerol. The Council declared Glycerosal inadmissible to New and Nonofficial Remedies because unwarranted claims were made for it and because there was no evidence to indicate that it had any advantage over other salicyl preparations, such as methyl salicylate, spirosal, etc. (Reports Council on Pharm. and Chem., 1918, p. 57).

Chionacea.—According to the catolog of Nelson, Baker and Co., the composition of Chionacea is: Each fluidounce contains: Tinct. chionanthus 180 min., Tinct. echinacea 90 min., Euonymus 12 grs., Lappa 16 grs., Traxacum 16 grs., Syrup senna 120 min., Sol. sodium phosphate conc. 24 min. The merits of the preparation may be estimated by the following: According to the Epitome of the U. S. P. and N. F., chionanthus, or fringed tree bark, is an absolute drug formerly used by eclectics and homeopaths in hepatic disorders and syphilis but has no definite indications for its use. Echinacea was examined by the Council on Pharmacy and Chemistry in 1909. Of this drug, the Epitome states "The claims for this drug as an 'alterative' and antisyphilitic are extravagant and unwarranted. There are no established indications for its use" (*Jour. A. M. A.*, June 14, 1919, p. 1787).

THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

VOLUME XXII
NUMBER 11

CHICAGO, ILL., AND ATHENS, PA., AUGUST, 1919.

SUBSCRIPTION:
$2.00 PER YEAR

ORIGINAL ARTICLES

PYLORIC STENOSIS IN INFANTS*

CHARLES M. WOODBURN, M.D.
TOWANDA

In looking up the data on this subject, I find so much has been written descriptive of stenosis of the pylorus of the congenital type, that it is with considerable hesitation that I venture to contribute the results of my meager experience to the voluminous material already recorded. Nevertheless, realizing that in the earlier years of my medical experience, I have had cases of pyloric stenosis which I failed to recognize, I feel what little I have to offer may be of some slight benefit to the general practitioner.

The first recorded case[1] is that of Beardsley in 1787, in which the necropsy cleared up the diagnosis. To quote Dr. Beardsley, "The pylorus was invested with a hard compact substance, or scirrosity, which so completely obstructed the passage into the duodenum as to admit with the greatest difficulty the finest fluid."

No other cases are recorded until Williamson's in 1841 and the following year, Dawasky's. For nearly half a century medical literature is silent on the subject. In 1887 the Danish pediatrist, Hirschsprung, brought to the attention of the medical profession two cases which he had diagnosed as obstruction of the pyloric orifice caused by a congenital hypertrophy of the circular muscular fibers.

In the decade following about twenty cases were reported, but it was not until 1897 that the affection became of general therapeutic interest and aroused considerable discussion. At that time the surgical aspect of the condition was recognized and we have recorded Stern's operation in 1897 and the following year those of Meyer and Löbker, the latter's case being the first successful one. From then, the number of cases become cumulative. In 1908 Ibrahim collected 400 and, at present, there are over 1,000 cases on record.

The etiology is an unsolved problem, and the results of the study of hundreds of cases are wholly speculative.

In 1909 Kaupe made an exhaustive study of 346 articles, treating of the subject with the conclusion that the etiology is a mystery. In a general way there are two views: that there is a congenital pyloric thickening which progresses after birth and, secondly, that there is a resultant spasm and hypertrophy from some primary irritation. The first hypothesis seems to be the more generally accepted. Dent found the condition fully developed in a seven months fetus. Cantley[2] deems the condition to be due to a simple redundancy of fetal growth. Flynn[3] of Sydney says it is an instance of reversion to the edentate pylorus as seen in the armadillo.

The statement that extreme gastric irritability occurring in the mother during pregnancy may constitute a causative factor need not be considered seriously, as gastric disturbances in early pregnancy are so common as to be physiological, while congenital stenosis is the opposite.

One of the greatest aids in the diagnosis of infantile pyloric stenosis is the sudden onset of the symptoms. Previously healthy, apparently normal infants may, in the first few weeks of life, begin to vomit, without any premonitory signs of gastro-intestinal irritability.

Another fact that must be strongly emphasized is the age of the patient. Symptoms have manifested themselves as early as the first day after birth, the average age being about the third or fourth week. According to Pfaundler, statistics evidence the following as to onset: One to 4 days, 25 per cent.; 4 to 6 days, 25 per cent.; 2 to 3 weeks, 25 per cent.; 3 to 6 weeks, 25 per cent. Ibrahim's investigations go to show that after the eighth week the condition is never found true to type. That this conclusion is not absolutely verified is shown by the report of several authentic cases in which the primary symptoms occurred in much older children. In 1904 Shaw and Elting[4] reported a case in which the first symptoms developed in a child seven months old, but not operated on until the tenth month. In Aggreger's case[5] the child was five years of age when the first symptoms appeared, and Rosenheim's case[6] evinced the first signs of the condition at three years, marked symptoms at five and was operated on at six and one half years. Scott,[7] 1917, reports a case of his own, occurring in a boy of twenty-two and a half months. One of my own cases manifested the first symptoms in the eleventh week after birth; another on the twenty-seventh day and the third on the twenty-sixth day.

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

[1] Prov. Med. Jour., 1914-1915.

[3] Wisconsin Med. Jour., 1913-1914.

[2] London Lancet, March 5, 1904.

[4] Arch. Ped., 1904.

It also seems that male babies are more prone to pyloric obstruction and many are first born. Contrary to data relative to other infantile disturbances, pyloric stenosis is found almost exclusively in the breast-fed, the proportion, according to Pfaundler, being three to four, and they are usually children who are adapting themselves perfectly to their food supply. Another fact, sometimes noted, is that the condition is apt to run in families, brothers and sisters being affected and occasionally the maternal history showing a like trouble in infancy.

The cardinal symptom, both in order of appearance and as a diagnostic aid, is the vomiting. This is usually of sudden onset and, though slight and occasional at first, rapidly assumes an expulsive character, occurring either immediately after feeding or an hour or two later. The stomach contents may be ejected with great force and a far larger amount than the last feeding may be thrown up. I have seen double the quantity of the last nursing expelled in a geyser-like stream half way across the room. Very often there are symptoms of colicky pains prior to and immediately relieved by emptying the stomach. When the food has been retained for some time the vomitus has a disagreeable odor due to the presence of butyric acid. Hydrochloric acid is apparently present in normal amount. Bile is usually absent, though occasionally noted. One of my cases showed considerable quantities in the vomit, together with traces of decomposed blood. Nausea is absent.

Of equal importance to the above is the visible peristaltic wave, which manifests itself shortly after ingestion of food. This is a characteristic and conclusive symptom and, when noted, should make the diagnosis sure. Holt[8] says that a definite persistent spasm of the pylorus without hypertrophy has yet to be proven and visible peristaltic waves, he regards, as the most important symptom in making a diagnosis. The detection of this symptom may be obtained by careful observation of the patient with the clothing removed. Soon after feeding a bulging will be noted in the left axillary region under the ribs. This may extend to the whole gastric area, or pass as a wave from left to right. Often there is a median constriction producing an hour-glass appearance. On the subsidence of this contractile wave, another starts up and continues until the stomach is emptied by vomiting or lavage.

A third characteristic sign is the pyloric tumor (Finkelstein), very often, but not always detected. I was easily able to outline it in one of my cases and in another it was palpated with difficulty. When the abdominal walls are relaxed after vomiting, the enlarged pylorus may be felt at the level or slightly above the umbilicus, a little to the right of the median line, and varies in size from a marble to a small spool. According to some authorities this tumor-like mass may soften and disappear under the pressure of the finger.

The gastric motility is seriously diminished, especially relative to the passage of the stomach contents into the duodenum (ischochymia). This is particularly noticeable when the accustomed amount of food is ingested, the gastric muscles becoming exhausted from the increased effort to force the contents into the bowel, the resultant condition being that the stomach retains a large amount of undigested milk, a portion of which may be retained even after repeated attacks of vomiting. Under these conditions the stomach is never empty, unless through lavage, and the organ itself becomes dilated and its digestive ability weakened. One of my patients would take small amounts of whey and retain it, but equally small amounts of breast milk would cause a recurrence of the vomiting.

In advanced cases we find a sinking in of the abdominal region with a corresponding distention of the gastric area. This is due to the resultant collapse of colon and small bowel.

Stools are reduced in number and the quantity is diminished, containing little fecal matter and considerable mucus. In complete pyloric closure they may cease entirely. In other cases typical hunger stools have been noted—sticky and dark brown. Sometimes decomposed blood may be detected.

Increasing emaciation is characteristic of the later stages. The patient is simply starving and evidences all the peculiar phenomena due to lack of nourishment.

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[5] Osler, William: Mod. Med., 1908.
[6] Holt: Jour. A. M. A., 1917.
[7] Jour. A. M. A., June 22, 1918.
[8] Jour. A. M. A., June 27, 1914.

Lactophobia has been noted by some observers, but is a rare symptom. The child will seize the nipple with great eagerness and, after a few swallows, show signs of intense pain or terror. Ibrahim erroneously termed this "cardiac spasm." This condition may often be mistaken for anorexia. In like manner the diminution in frequency and amount of the stools may be misinterpreted as constipation.

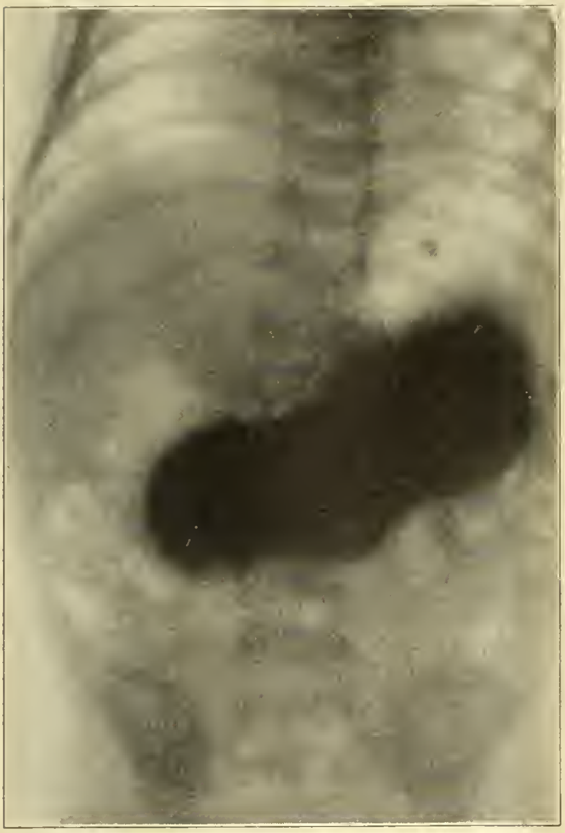

Fig. 1.—Complete closure of pylorus with resultant collapse of intestines. Infant 6 weeks old.

Recognition of cases of pyloric stenosis is not difficult, provided we bear in mind the three cardinal symptoms, namely: The expulsive vomiting, occurring suddenly in healthy infants; the exaggerated peristaltic wave and the enlarged, thickened pylorus. The nontypical, borderland cases are the ones which may lead us astray. Cantley[9] asserts that symptoms may be limited to dyspepsia and occasional vomiting, and it is undoubtedly true that many children dying from so-called inanition, marasmus, etc., belong to this class.

The bismuth radiograph is an invaluable aid in clearing up these obscure cases. In simple digestive disturbances, the plate taken immediately after the bismuth feeding shows the stomach tapering down to a point at the pylorus, with some of the gastric contents passing into the duodenum. The picture in stenosis is much different. The stomach is distended and the pyloric end has a peculiar rounded appearance with very little, if any, bismuth in the intestine. This condition is very well shown in the accompanying plate (Fig. 1).

Strauss regards the fluoroscopic examination as the most important means of obtaining a positive diagnosis. The technic followed out by him is minutely described in his article in *The Journal of the American Medical Association,* Sept. 7, 1918.

Holt[10] advises the Hess apparatus for aspirating the duodenum to determine the degree of obstruction and thinks this means more valuable than the roentgen ray.

Pylorospasm may simulate pyloric obstruction. This is found in older children of neurotic temperament with accompanying nervous symptoms, as restlessness, tendency to cry, rigid abdominal walls, poor appetite, etc. The vomiting is less liable to be expulsive in character and is usually later after nursing. The peculiar peristaltic wave is absent and the tumor is not

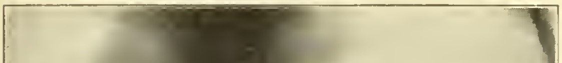

Fig. 2.—Same as Fig. 1, 16 months after operation. Note presence of bismuth in intestines.

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[9] London Lancet, March 5, 1904.

[10] Amer. Jour. Obstet., 1914.

palpated. The stools are more nearly normal in bulk and fecal characteristics. The resultant emaciation is not so great. Still, it must be borne in mind that in these cases a slight stenosis may be present of which the pyloric spasm is a symptom.

The vomiting of habit and that accompanying gastro-enteritis yield more or less readily to proper medicinal and dietetic treatment, and never present the characteristic phenomena of pyloric obstruction. In all suspicious cases the patient should be given a bismuth meal and radiographed.

The prognosis of pyloric stenosis is good, unless valuable time is wasted before resorting to proper means of removing the obstruction. Some cases undergo a spontaneous recovery, which happened to one of my own. The earlier the symptoms manifest themselves, the graver the outlook for a spontaneous cure. In an older child, with less pronounced symptoms, nature has a better chance, but a permanently weakened digestion may result. In children under a week, with aggravated symptoms, the prognosis is grave.

The treatment of pyloric stenosis with marked obstructive symptoms is operative intervention, and the earlier the better. In mild cases we may try the expectant treatment, chiefly advocated by Robert Hutchenson.[11] This consists in gastric lavage, with feeding small amounts at frequent intervals, breast milk preferred; if not obtainable, peptonized cow's milk. Hutchenson notes the fact that a change of food will often stop vomiting for hours. This was noted in one of my own cases. Lavage should be done once or twice a day with water at a temperature of 110 to 112 degrees F. This controls the vomiting, Hutchenson states, but there is no gain in weight until the fifth month, a period which he terms "rounding the corner." Bear in mind, though, that too conscientious lavage may cause the vomiting and persistalsis to cease, but starvation may be rapidly bringing the case to a fatal termination.

Rectal nutritive enemata may be tried, and undoubtedly will assist in prolonging the agony. Nasal feeding has also been advocated on the theory that sucking increases the tendency to spasm. Drugs are of no value.

The danger of prolonged medical measures in these cases is twofold: (1) The baby may be apparently holding its own, and suddenly die owing to sheer lack of vitality, and (2) when all medical means have been exhausted, the patient is in no condition for operation, and the surgeon is requested to perform a miracle.

The mortality of the medically treated cases is over 50 per cent., and there is a strong probability that in a part of the cases reported cured, the patients were suffering from some other form of gastric disturbance. Hutchenson cites twenty nonoperative, private cases, with three deaths; sixty-four of his hospital cases gave a mortality of 78 per cent.

A baby with a stenotic pylorus is not a sick baby. All he requires is a free passage from the stomach to the duodenum. Give him this and he is absolutely normal. Why subject him to the risk, uncertainty and suffering of the long way, when surgery offers an easier, more certain avenue of escape. The mortality, formerly, was high, 50 per cent., owing largely to the exhausted condition of the patient when brought to the operating table. At present, in the hands of a skilful surgeon, the mortality is below 20 per cent.

The surgical procedures used at various times are pylorectomy, divulsion, gastro-enterostomy, and pyloroplasty. The first two are too difficult. Gastro-enterostomy and pyloroplasty are the operations most commonly performed in this country, the latter as modified by Rammstedt being the one of choice. Briefly, the operative steps are as follows: The stomach is first emptied. Under ether, the usual incision, splitting the right rectus, is made and the pylorus exposed. The pyloric tumor is grasped between the thumb and index finger and the hypertrophied muscle incised in the direction of the long axis down to the mucosa. The incision is spread apart so as to allow the thickened mucosa to pout into the wound, which is covered over with omentum and permitted to remain open. The abdominal wound is closed up in the usual way. The advantage of this operation is its simplicity, quickness, and freedom from shock. Of four patients operated on by the Robert Packer Hospital staff, all recovered and resumed normal existence in a very few days. Cupler's modification[12] consists of freeing the serosa and suturing it over the exposed mucosa.

Strauss[13] incises the outer layers with the sharp end of the knife and works through the rest of the tumor, down to the mucosa with the handle, thus protecting against puncturing. The mucosa is then shelled out, freeing it absolutely from the surrounding muscles except at the base. This inner portion of the muscle is split and used as a flap, brought up and sutured over the exposed mucosa. The advantage claimed for this method is the lessened mortality, 4 per cent., and immediate relief from symptoms.

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[11] Brit. Med. Jour., Oct. 8, 1910.

[12] Surg., Gyne. and Obstet., August, 1918.

[13] Jour. A. M. A., Sept. 7, 1918.

My experience is limited to the three following cases. In the first the symptoms came on late and were never aggravated, indicative of the mild type, in which nature gradually worked out a cure. At four years of age, the boy is far from robust. The other two were typical in every way. I was able to obtain a bismuth radiograph of the last case just prior to operation and again at 16 months, showing the pyloric lumen entirely free.

Case 1.—G. D., male, born May 1, 1914, weight 10 pounds. Family history, excellent. Mother, primipara, unusually well during pregnancy. The baby was apparently normal in every way, gaining steadily until the eleventh week when he commenced to vomit shortly after feeding. This was occasional at first but gradually became more constant, finally assuming a typical expulsive character. Distinct peristaltic waves were visible, extending from left to right over gastric area. Was unable to palpate pyloric tumor. At seven months old, the baby weighed 13 pounds. He was then taken to Dr. Holt and kept under observation six weeks. On his return his weight was 12 pounds and his improvement from then was steady but slow, and at 4 years he is a delicate boy, decidedly under weight with impaired digestive ability. My diagnosis was not upheld by Dr. Holt, who determined the trouble as "fat intolerance." Nevertheless, two cardinal symptoms were present, persistent expulsive vomiting and increased peristalsis.

Case 2.—L. D., male, brother of Case 1, born March 4, 1916, weight 8 pounds. Average gain in weight over 8 ounces per week until April 9. On the first day of April he commenced to vomit an hour or two after nursing. In spite of this he added, between April 2 and April 9, three-fourths of a pound to his weight. The vomiting was not expulsive and there was no peristaltic wave. On April 11 the temperature, which had been normal, ran up to 102 per rectum and the stools became frequent and offensive. On the supposition that the condition was one of gastro-enteritis, the feedings were reduced in amount and frequency, and his intestinal tract cleaned out with castor oil and colonic flushings. No improvement resulting, he was taken off the breast and placed on 4 ounces of whey, every two hours for forty-eight hours, when the vomiting ceased and the intestinal irritation cleared up. Put back on small quantities of breast milk every three hours, the vomiting started up again, rapidly becoming projectile. Peristaltic waves from left to right were markedly characteristic, and a pyloric tumor was palpated with some difficulty through the relaxed abdominal walls. A diagnosis of pyloric stenosis being unquestionable, the baby was taken to the Robert Packer Hospital on April 23, and a Rammstedt was performed, under ether, by Dr. S. D. Molyneux. The operation disclosed a large thickened pylorus, about the size and shape of a small egg. The lumen was nearly closed. Twenty-four hours after operation, the patient was put to the breast and fed, at regular intervals, small amounts. His gain in weight was steady and uninterrupted. At 2½ years, he has the appearance of a boy a year older. One interesting point in this case to be noted is the onset, which appeared like a typical gastro-enteritis.

Case 3.—D. T., male, born May 17, 1917, weight 8½ pounds. Family history, excellent; two older sisters perfectly healthy; mother's pregnancy and labor, normal. Baby perfectly well until the twenty-sixth day, when he commenced to regurgitate small amounts of food, immediately after nursing. In spite of dietetic regulations, the vomiting gradually assumed the expulsive type and every feeding was thrown up, in toto, a few minutes after taking into the stomach. Characteristic peristaltic waves were present to a marked degree, with a median constriction, giving a dumb-bell like appearance. Pyloric tumor was easily palpated to the right, and slightly above the umbilicus. The stools lessened in frequency and quantity and finally ceased altogether. Twenty-four hours before operation, symptoms of complete obstruction developed, and the baby had lost 1¼ pounds in weight. On June 28 he was removed to the Packer Hospital and a bismuth radiograph confirmed the diagnosis of pyloric stenosis with complete closure (Figs. 1 and 2). The following day, a Rammstedt was performed under ether, by Dr. Guthrie. The operation disclosed a hard cartilaginous tumor, about 2 inches long and 1½ inches thick, oval in shape. The patient did not take the anesthetic well and the operation was somewhat hurried but entirely successful. Feeding was resumed as in previous cases and convalescence was uninterrupted. The operation cut his weight down to 6¼ pounds. At six months he weighed 10¾; ten months 17¼, and at one year 20¼ pounds.

One interesting point in regard to this case is a spasmodic stricture of the rectum about 3 inches from the anus. This was first noticed when the baby was eight weeks old, producing a large fecal impaction. In spite of extreme care as to regularity of bowel action, he has had an accumulation about every six or eight weeks necessitating digital evacuation. This has not seemed to interfere with his general health.

HIRSCHSPRUNG'S DISEASE *

WALTER LESTER CARR, M.D.
NEW YORK

At the May, 1918, meeting of the American Pediatric Society held at Lenox, the following clinical record was presented:

L. S., female, aged 6 years, of Italian parentage, was brought to the City Hospital in the ambulance without a history except that she had been constipated for five years and had vomited for twenty-four hours. The child was in a condition of shock, the skin was pale, the lips and fingers were cyanosed and the eyes were staring. There was dyspnea with gasping respiration. The temperature was 97.5 F.; pulse, 120. Thirst was intense. The lungs were clear and the heart negative.

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

The abdomen was greatly distended and there was a constant involuntary discharge of feces. Colonic irrigations of normal saline solution were given with stimulation, heat, etc., but the symptoms increased in severity. A partial blood count showed red cells of 5,100,000; white cells, 11,300. The blood was viscid and was not absorbed by Tallqvist paper. The child died eleven hours after admission. A partial necropsy was allowed and I am indebted to Dr. John H. Larkin of the Strecker Laboratory for notes and also for the specimens. (See illustrations.)

A small incision was made in the abdominal wall which disclosed a marked distention of the intestines, which was particularly evident in the sigmoid colon which was bent on itself. The wall of the upper part of the rectum and the lower part of the sigmoid colon was slightly calcified and the lining mucous membrane was very granular. There was hyperplasia of the mesenteric lymph nodes. Anatomical diagnosis: "Idiopathic dilatation of the sigmoid colon (Hirschsprung's disease) with secondary calcification of the lower part of the sigmoid and upper part of the rectum."

A microscopic study of the tissue from this specimen shows a complete loss of mucous membrane, and in its place is a vascularized round cell proliferation of the submucosa. There is a corresponding hypertrophy of the inner and outer muscular coats.

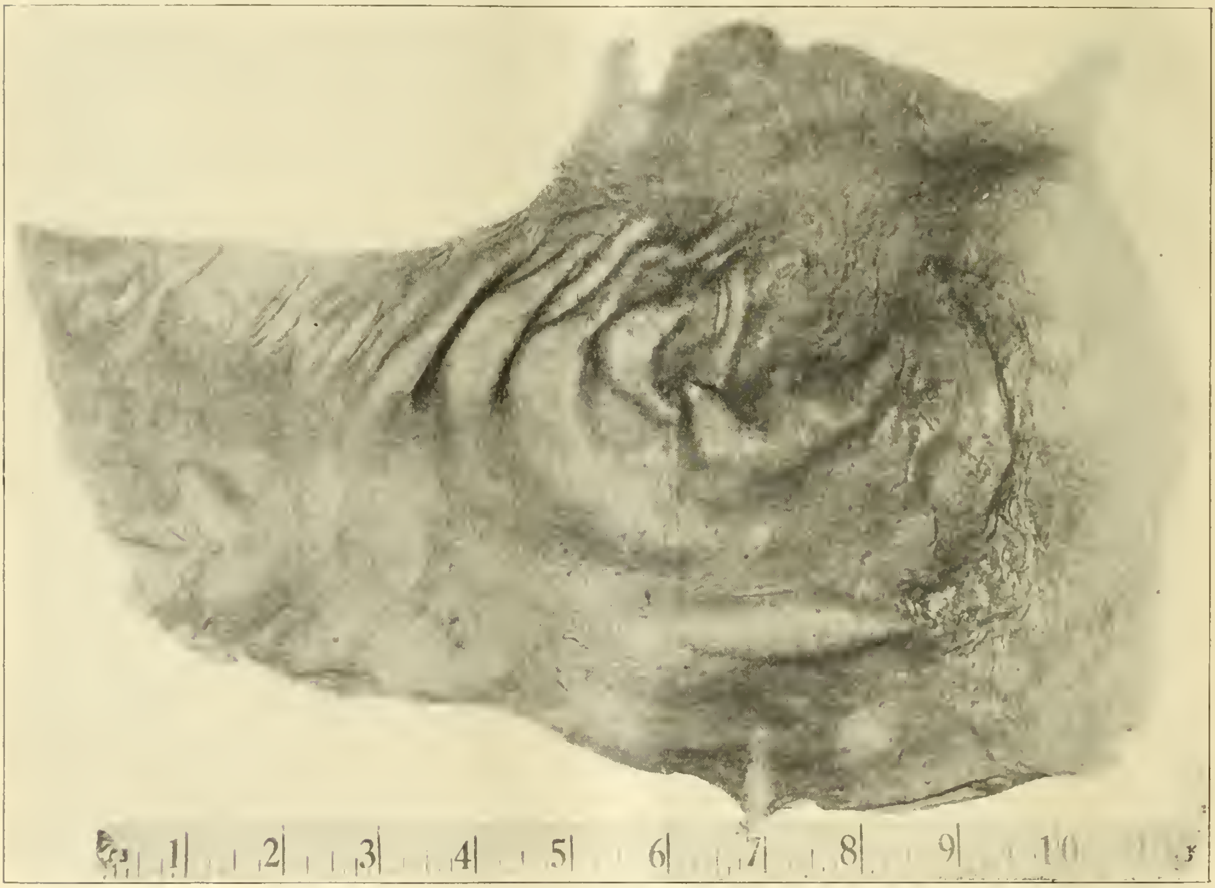

Fig. 1.—Photograph of sigmoid colon after having been opened. Showing irregular granular elevations replacing the mucous membrane. There are scattered, irregular, white scar-like elevations running transversely and longitudinally. Rule and measurements give size in centimeters (Dr. John H. Larkin).

After a study of the defects of development that are found in the alimentary tract—for example, pyloric stenosis and duodenal constriction, there is no reason for us to object to the development cause of megacolon, although we cannot always get a history in the first weeks of extra-uterine life. During the period of intra-uterine growth the large intestine increases in diameter more rapidly than does the small intestine and any interruption in the proportional growth of the intestinal canal may make changes in the large intestine. McMurrich writes, in "The Development of the Human Body," that the lower portion of the large intestine is thrown into a loop which extends transversely across the lower part of the abdominal cavity and represents the sigmoid flexure of the colon. At the time of birth this portion of the large intestine is relatively much longer than in the adult, amounting to nearly half the entire length of the colon and he quotes Treves as his authority. After the fourth month from birth a readjustment of the relative lengths of the parts of the colon occurs, the sigmoid flexure becoming shorter and the rest of the colon proportionally longer.

Thus we see it is not unreasonable to classify this disease as a congenital anomaly which may or may not show its clinical symptoms at birth. Hirschsprung distinguished two groups of cases: (1) Those seen at birth or shortly after, and (2) those which develop later, about the time of weaning or toward the end of the first year of life, corresponding to the time of change in the character of the food.

Hirschsprung's statement that the disease is entirely limited to the colon is not absolutely so, although the typical cases are found in the sigmoid portion of the colon and in the transverse colon. There may be dilatation of the cecum or rectum and in rare cases there may be a dilatation of the colon without involvement of the sigmoid. The caliber of the colon is diminished at the natural curvatures, thus the intestine is found alternately dilated and contracted. In two cases recorded by Neugebauer[1] the entire large intestine from the ileocecal valve to the anus was distended. Of 169 cases reported by him the condition was megasigmoid alone in 74; the entire colon minus the rectum was the seat in 32 and the entire colon with the rectum (entire or partial) in 13; sigmoid and rectum, 9; sigmoid and descending colon, 6; transverse colon alone, 5; transverse colon and sigmoid, 5; transverse and descending colon and sigmoid, 5. The remaining locations are exceptional and do not exceed three cases each, mostly one or two for each. Taking three cases as examples the dilatation is segmentary in two while in the third it involves more than one, or scattered segments. Participation of the cecum is common but unimportant.

The colon is elongated in almost all the cases. In addition to the lengthening and distention, there is thickening of the intestinal wall as is shown in the photographs. There is loss of elasticity due to proliferation of the connective tissue and there is also an hypertrophy of the muscular layers. Distention by feces and gas, especially the latter, causes further loss of elasticity and the folds of the intestine are affected. With the distention and loss of elasticity there is fecal retention with the formation of fecal tumors, fecaliths and fecal sand. When the material retained is excessive and gas pressure is continuous, there is ulceration of the mucous membrane and perforation may occur, but this is not always due to mechanical causes alone as it may be partially of bacterial origin. The elongated sigmoid may undergo volvulus without clinical symptoms.

Congenital megacolon is three times as frequent in boys as in girls. Of the early symptoms abdominal distention may be observed at birth and it may be excessive enough to retard labor, but the most important symptom is the nonpassage of meconium noted in one fourth of the children born with the defect. The meconium may not be passed for two or three weeks or even longer. If the distention and retarded peristalsis are not present at birth they show themselves during the early weeks of life and the constipation continues over a period as long as from four to six weeks. There is gas in the intestine but the constipation and irregular peristalsis give meteorism without an expulsion of flatus. Visible peristalsis is observed more in older than in young children.

Constipation is always a definite symptom. In early infancy it is found in the delayed passage of meconium and later it is a clinical manifestation of great importance. The fecal material accumulates in such quantities as to cause fecal tumors, especially in the sigmoid, and the rectal pouch may contain so much fecal material that it has to be removed mechanically. The constipation adds to the difficulty experienced by patients in ridding themselves of gas, produces local pressure on adjacent organs, such as the kidneys and ureters, and increases the upward displacement of the abdominal contents, which leads to interference with the diaphragm and causes deformities of the chest.

Protracted constipation may be relieved spontaneously by the expulsion of great masses of fecal material or it may yield to enemata or mechanical stimulation which will cause the passage of fecal matter for three or four days, but after this free discharge constipation recurs.

Vomiting is not usual or characteristic in megacolon and it is not observed in this disease as it is in pyloric stenosis or adhesions and obstruction. If it occurs late, as in the case reported, it is a terminal symptom.

The chest is deformed and distention of the abdomen causes displacement of the diaphragm so that the upper thoracic and intercostal muscles perform their function imperfectly, thus the intercostal spaces are widened and the sternum raised.

The lungs are interfered with by pressure from the tympanitic intestine and the impaired action of the diaphragm. Alterations in the structure of the lung result.

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[1] Ergebnisse der Chirurgie u. Orthopedie, 1913.

The heart is pushed up and displaced by pressure against the diaphragm so that its action is impaired and, owing to the obstructed pulmonary circulation, the right heart is hypertrophied. In some cases ending suddenly myocardial degeneration has been ascribed as the cause. Delayed venous return results in passive congestion of abdominal viscera and enlarged veins. Edema may be present.

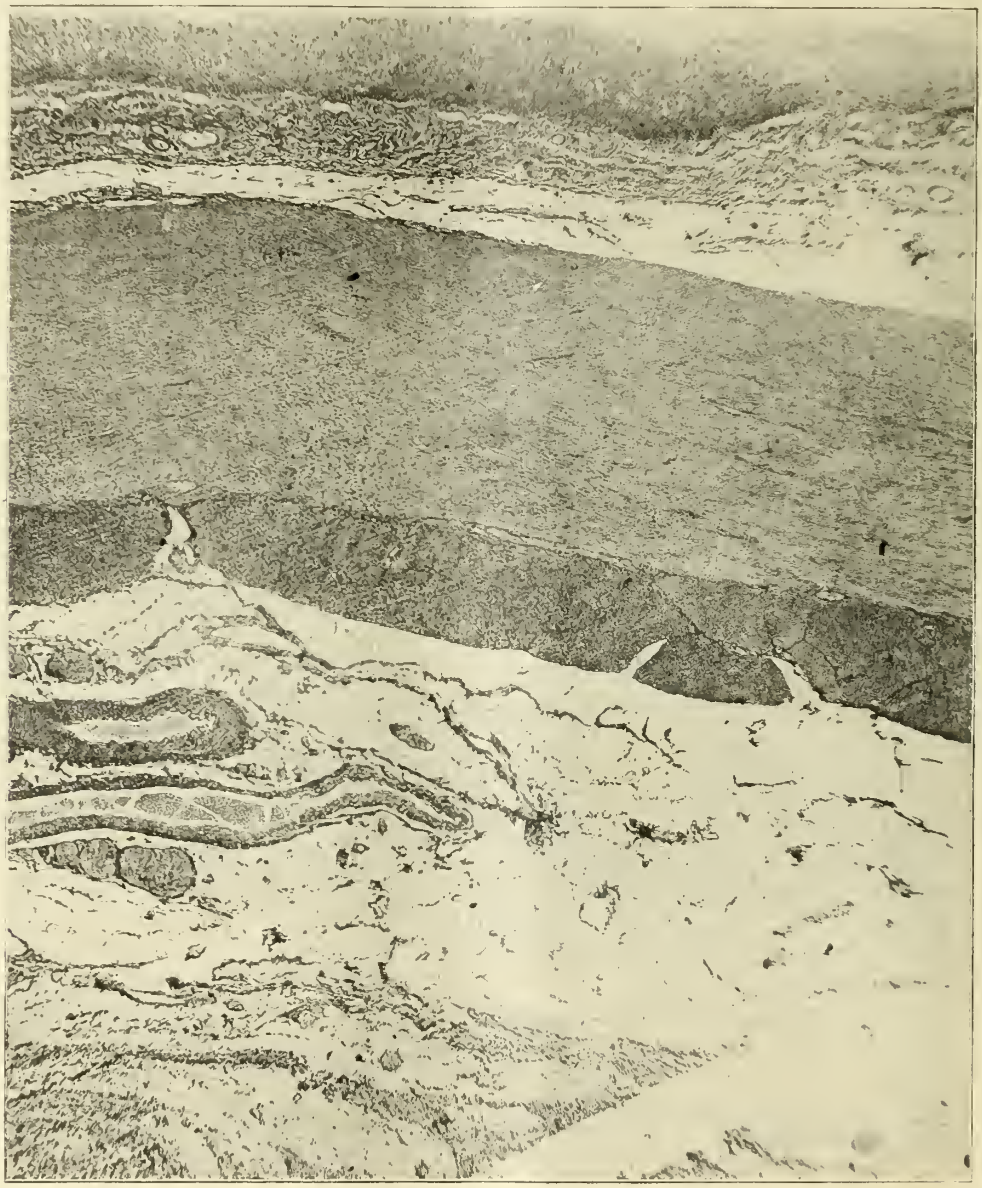

Fig 2.—Microscopic preparation (paraffin). Low power. × 50. Entire section of gut from mucous membrane to adventitious tissue.

Note 1: Shows mucous membrane which is replaced by a vascular scar-like hyperplastic tissue in which very little evidence of mucous membrane remains.

Note 2: Shows fibroid thickening of submucosa and dense, waxy, fibrous, wavy tissue strands, and thickened blood vessels with a moderate amount of edema.

Note 3: Shows inner muscular coat tremendously hypertrophied by overgrowth of fibrous connective tissue, replacing the musculature. Stains deep red and microscopically gives little evidence of muscle fiber.

Note 4: Shows outer muscular coat moderately thickened. The proportions between inner and outer musculature is 1 to 3.

Note 5: Shows adventitious tissue with longitudinal section of artery and vein having granular thrombi; cross section of nerves showing interstitial neurofibrosis with edema and moderate plasma cell infiltration. From the Strecker Memorial Laboratory, City Hospital (Dr. John H. Larkin).

The kidneys suffer not only from mechanical pressure but from impaired circulation due to the state of the heart and lungs so their functional activity is lessened. The ureters may be clogged by pressure from fecal masses and gas.

Nervous phenomena due to toxemia, delayed metabolism and faulty circulation occur and there may be tetany and spurious meningeal symptoms. Weakness, anemia and mental depression are common.

The diagnosis of megacolon is made readily when the record of a child is complete but it may be puzzling when a history is unobtainable.

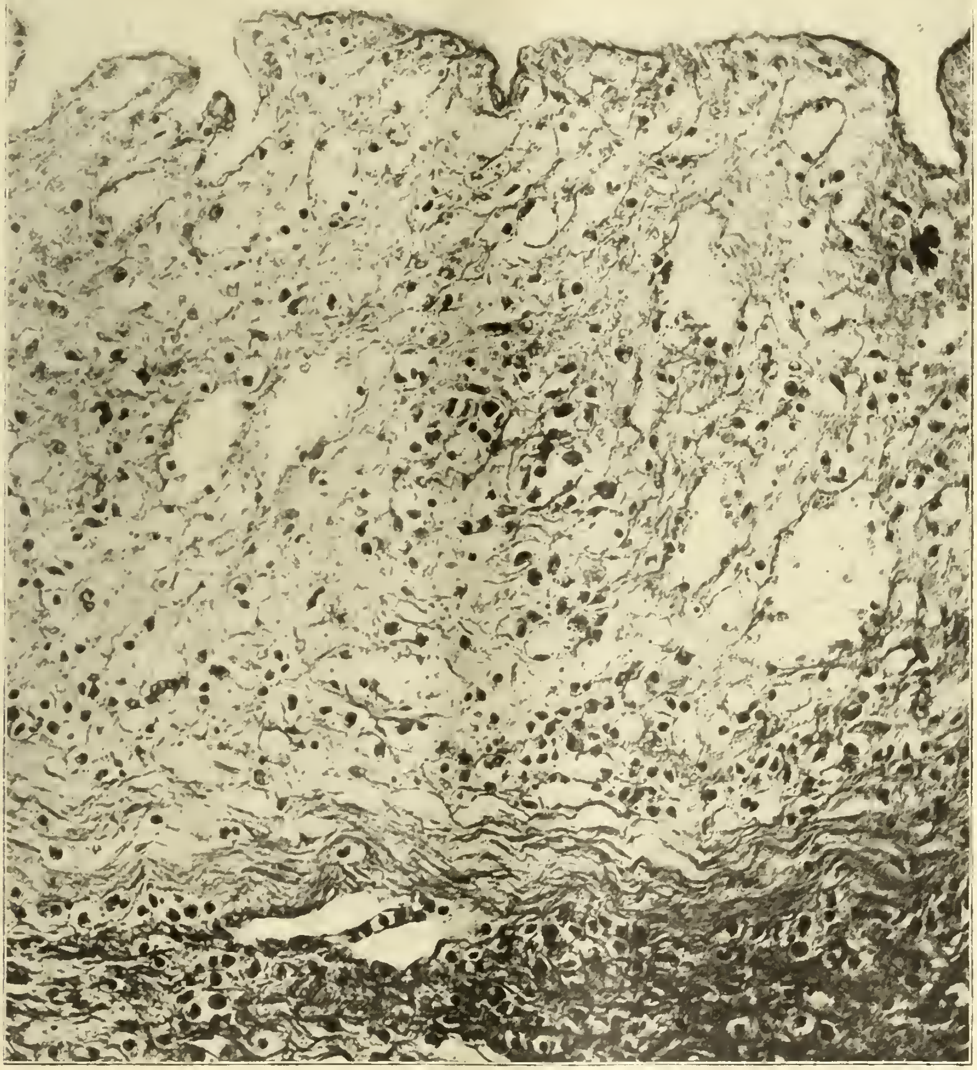

Fig. 3.—Microscopic preparation (paraffin). High power. × 300. The mucous membrane of the sigmoid colon. Only a few remnants of glands can be seen, which have the appearance of cysts lined with epithelium. The mucous membrane is, microscopically, exuberant granulation tissue. In the spaces between the blood vessels, in what remains and might be glands, are scattered plasma and other large fibroplastic cells, irregular in contour, and numerous eosinophils. This transformed mucous membrane rests on a hyperplastic submucosa which is seen in wavy masses and beneath which is the submucous tissue densely infiltrated with plasma and other fibroplastic cells. From the Strecker Memorial Laboratory, City Hospital (Dr. John H. Larkin).

Old adhesions due to chronic appendicitis and peritonitis or to tuberculous changes may cause symptoms of obstruction with fecal retention and dilatation of the gut. In the congenital cases chronic constipation, fecal tumors, enlarged abdomen and displacement of thoracic organs are symptoms of long standing without local evidence of inflammation.

Acute appendicitis, intussusception, volvulus and acute intestinal obstruction should not be confused with the chronic disease. The acute symptoms of the former and a rectal examination will determine the diagnosis. Rachitis with a prominent abdomen will give a tympanitic intestine, irregular bowel movements and venous obstruction but a study of the osseous and muscular systems will make diagnosis easy. A series of roentgen-ray pictures taken after rectal injections of barium will show the dilated colon and sigmoid in Hirschsprung's disease, but the two diseases may coexist.

The prognosis in congenital disease of the colon must be regarded, with our present knowledge and medical treatment, as unfavorable for the duration of life. A few patients reach middle life but in Neugebauer's statistics 79 per cent. died before the sixth year and ten years appears to be an unusual survival. With operative procedure life is probably longer but statistics are not complete.

Medical treatment of these patients is largely symptomatic and it is probable that children who have a minor defect in the development of the large intestine go through life without serious evidences of colonic enlargement and obstruction. When such patients are under medical care laxatives, special food and an occasional enema will relieve them. The more serious cases of Hirschsprung's disease are to be treated by enemata to empty the rectal pouch and high irrigations when there is impaction in the sigmoid or colon. These enemata may be soap and water, salt solution, one dram to the pint, glycerin, sweet oil or ox gall where the impaction does not yield. Mechanical evacuation with the aid of a sound or the finger is to be used if the enemata are not effectual. Following the first evacuation of the lower bowel the upper intestine acts and carries down material that has been retained in the curvatures and particles that have been attached to the mucous membrane. After freeing the intestine of these fecal masses diarrheal movements may follow, but constipation will recur. After high irrigations a rectal tube would be introduced and kept in place for twenty-four hours. This plan of treatment has been continued for months and it has been claimed to be curative. The chronic constipation can be helped by oils, both vegetable and mineral, by medicines like cascara that act on the lower bowel and by food that has a laxative effect. Butter, cream, olive oil and green vegetables should be ordered in the diet.

Hirschsprung's second class of cases begins about the time of change from breast feeding to cow's milk and other artificial food. A diet should be selected to lessen intestinal impaction and distention.

Coarse food with a great deal of residue does not seem to be required and may occasion harmful effect by local injury to the intestinal mucous membrane. Massage, abdominal exercises and gentle stimulation of the rectum to cause peristalsis should be routine methods with megacolon or megasigmoid where peristalsis is impaired. Mechanical vibration and electricity have a limited and not a specific value.

Of Neugebauer's 254 reported cases, 136 were treated conservatively with a mortality of 68 per cent.; 13 were cured, 21 were improved and 10 were not benefited, and he states that alleged cures under conservative means were doubtful and misleading. In the statistics quoted of surgical treatment colostomy is objected to because of its high mortality; colopexy in eight cases gave no mortality and three patients were reported cured by this method of lifting the sigmoid and fastening it so as to eliminate kinks. Resection has been done 43 times: in one stage operation the cured were 56.5 per cent.; in two stage operation, 90 per cent. were cured. In the former operation there were a mortality of 26 per cent., while in the latter there was only one death in 20 cases. Ileocolostomy has given good results. Anastomosis does not seem so satisfactory. The details of operative methods and their results can be determined only by a surgeon. Every patient with megacolon should have his case reviewed by a surgeon, who will cooperate with the physician in charge.

68 West Fifty-First Street.

DISCUSSION

ON PAPERS OF DRS. WOODBURN AND CARR

Dr. J. P. Crozer Griffith, Philadelphia: I happen to have a little patient in the children's ward of the Hospital of the University of Pennsylvania who can discuss Dr. Carr's paper more effectively than I can. I have brought him here and now place him before you. He is a very typical case of idiopathic dilatation of the colon. He is 3 years and 4 months of age, and was brought to the hospital on account of vomiting and chronic constipation. Ever since birth it has been necessary to administer powerful purgatives to relieve the latter. Except when suffering from unusual constipation his appetite has been good, and his general condition, as you see, is excellent. His abdominal girth has varied from 23 inches to nearly 30. An injection of barium was given by the bowel preparatory to the taking of a roentgen-ray picture. After 3 pints had been injected, the roentgenologist thought it best to desist; but the plate when taken showed that only the ascending colon had been partially filled, and the rest not at all. The picture revealed a very unusual dilatation of this part of the intestine.[1]

I will not enter extensively into the discussion of the nature or cause of this disease, further than to say that the *tendency* to dilatation appears to be a congenital one, although, it may be, no actual dilatation takes place until some considerable time after birth. Whether or not hypertrophy and distention of the intestinal walls is a primary or secondary condition in these cases has not been thoroughly determined. The fact that in some cases in quite early infancy hypertrophy has been found at necropsy would appear to indicate that it is not the result of prolonged constipation.

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[1] The condition continued for some months after the date of the meeting; operation was performed; the colon found enormously distended without any stenosis; resection was done, but the child died after a few days.

Idiopathic dilatation of the colon is to be sharply distinguished from that due to stenosis and that dependent on chronic intestinal indigestion. The cases caused by stenosis cannot always be distinguished until operation or necropsy is performed. Those dependent on indigestion, however, have a very distinct previous history, which, if carefully considered, should prevent any error being made. I have seen cases where operation was advised, which were certainly dependent on chronic indigestion, and operation would have been unnecessary and dangerous.

Dr. Woodburn has given us such an excellent review of the subject of pyloric stenosis in infants, that there remains little to add. He refers in one portion of his remarks to the atypical cases; and I would like to emphasize the importance and the frequency of these. To rest our diagnosis on the three cardinal symptoms mentioned, and these alone, would lead us frequently into error in instances of this sort. Even when these symptoms are found, they are not infallible. Expulsive vomiting can occur in other conditions; and cases have been reported also of apparently undoubted gastric peristalsis which operation or necropsy showed depended on some other cause than pyloric stenosis. In one published instance the waves arose in the colon which occupied an unusual position. So, too, the roentgen-ray examination does not always help us. We recently had a patient in the Children's Hospital with many symptoms of pyloric stenosis. A roentgen-ray examination, however, failed to confirm the diagnosis; and after some weeks a second examination was made, and a report received recommending operation. We reminded the roentgenologist that he had shortly before told us that no operation was needed. The baby then improved for a time, but finally died, and necropsy revealed a chronic gastritis, but no stenosis whatever. This is no reflection on roentgen-ray examination, but is reported merely to show the impossibility of being guided solely by it.

If Dr. Woodburn will permit me, I would like to differ somewhat from his remarks concerning the difference between pyloric stenosis and pylorospasm. It does not seem to me possible to base a diagnosis at all on the age of the patient. Certainly cases in early infancy with gastric peristalsis, expulsive vomiting, and retardation of the passage of food from the stomach, often can and do recover. If we call all these cases instances of hypertrophic stenosis, we are forced to the conclusion that some other curable element was present as well, since we cannot expect the organic stricture itself to lessen. It has always seemed to me that a certain degree of spasm was present in these cases, and that this was relieved finally by treatment. In fact, it is probable that there is no pure pyloric spasm, and equally so that hypertrophic stenosis is always attended by more or less spasm, or some other variable element. In view of this fact it is better to view all cases as simply "pyloric stenosis," irrespective of the influence which either of these two factors may possess; and to be guided in our treatment by the condition of the patient and the needs of the case, rather than by any differential diagnostic signs supposed to distinguish the two conditions. I do not believe that any sign of this nature is sufficiently positive to be of material aid. Certainly the question of whether or not the stools are fecal cannot help us; and I have already spoken regarding the other symptoms.

This view would simplify our course as regards treatment. If we find a baby improving, or even decidedly holding its own under medical measures, we can afford to temporize; but if after a fair trial of such measures for a short time we find the condition deteriorating, operation should be done at once, absolutely without regard to any notion as to what the nature of the stenosis may be.

Dr. John B. Deaver, Philadelphia: Dr. Carr has made a valuable contribution to the literature on Hirschsprung's disease. The incidence of the condition, which is usually a congenital one, is not large, and it is important that all cases be reported.

I heartily agree with the opinion expressed by Dr. Carr when he deems megacolon to be essentially a surgical condition. The improvement in the technic of the surgery of the colon has eliminated much of the danger formerly attending surgery of that viscus, so that the future of such cases has been considerably brightened.

Every case of Hirschsprung's disease that is allowed to persist for ten or twenty years under continued ineffectual medical treatment, to me represents a gain only, and that merely a material one, to the attending physician or physicians. To the patient and his family (the disease seems to predominate in the male sex) it means not only a pecuniary loss but what is more serious, the deprivation of the inherent right to good health which is no less a prerogative of youth than is the constitutional right of life, liberty and the pursuit of happiness.

Dr. Donald Guthrie, Sayre: I do not think the pediatrician can be blamed for the feeling of hesitancy he has had in the past in referring his patients for operation. The mortality of their surgical treatment has been exceedingly high. Stillman in 1915 reviewed the literature carefully and reported a mortality something like 48 per cent., that is, when a gastroenterostomy was done in all the cases. Since the operations of Ramsted and Strauss have been generally adopted this mortality has been greatly lessened. My personal experience in this work has been limited. I have had but eight cases; seven of these were patients who were operated on. In the first three cases operated on we employed the gastroenterostomy with two deaths, making a mortality of 66⅔ per cent. Necropsies showed these patients died of exhaustion and not from peritonitis. Since that time we have operated on four cases by the Ramsted operation. We have lost but one of the four cases. Strauss reported 167 cases treated by his method with a mortality of 4 per cent. This operation is more serious and takes longer to perform than the Ramsted operation.

The men in your specialty have shown a greater willingness in referring these cases since the mortality has been reduced within justifiable limits.

Dr. E. L. Bauer, Philadelphia: I would like to ask Dr. Woodburn how soon after operation food should be taken in these cases. In some cases, we have started two, three and four hours afterwards, and obtained very good results. I would like to ask another question as to whether Dr. Woodburn has noticed any peristalsis in these cases, for any period whatever after operation. This has been called to my attention, but I could not see it in any of the cases. The family physicians thought they saw it, but in the cases that were sent to me I was never able to find it. The mortality rate in the Ramsted operation is extremely low in comparison with the Strauss operation and is more simple. Strauss, of course, can do it better than anyone else, so that the mortality rate of his operation in the hands of others is considerably higher than in his. The technic involved requires longer time, a great amount of the intestine and the stomach being brought out to the surface, there is more to be returned to the abdominal cavity.

Dr. Woodburn, closing: Perhaps in my paper I may have made a misstatement. The diagnosis is not easy, but hard, except in the cases having characteristic symptoms; but you have to look for it. Unfortunately, we are all occasionally a little bit lax in our diagnosis when called in to see a case. In the cases of persistent vomiting, if we simply make it a point to be around when the child is feeding and then strip him and spend half an hour watching the action of the gastric area, I think, that if we note the marked peristaltic wave which usually precedes the vomiting, the diagnosis should be easy. The borderline cases are the ones to deceive us.

In regard to feeding: The two cases, of course, that were operated on were not under my care postoperatively, but I think I am correct that they were fed after the first twenty-four hours, with probably some small amount before that, probably in the form of barley water, then feeding given regularly after twenty-four hours.

In regard to the postoperative peristalsis, in the two cases there was absolutely no sign of it. I have examined them repeatedly simply to satisfy myself in this matter.

As to the Strauss operation, I am sure that Dr. Strauss does not recommend it in any babies. He says it is more applicable to children of two to three years; therefore, he realizes the danger of the operation. It is dangerous, more serious and requires a longer period of time. I think he claims in his article that it takes him fifteen minutes to perform it. How he performs it in fifteen minutes is hard for me to see. Of course, I am no surgeon.

Dr. Carr, closing: I am indebted to Dr. Griffith and to Dr. Deaver for their discussion on this subject, and am particularly obliged to Dr. Griffith for the opportunity of seeing his patient. As he has stated, there are different types of this defect and I presume that if we could classify them all we could find some of them among children with prolonged periods of constipation in early childhood who require constant attention and also in those cases where we must determine whether we have a true congenital defect or whether it is muscular weakness and distention. For these patients we must try different methods of treatment—diet, exercise, massage, irrigation, oil enemata—and get relief of constipation by the simplest routine.

The question on the type of case discussed by Dr. Deaver is whether these patients can be given a prospect of future health by operation. It seems to me we should withhold judgment until we study them more conclusively. Dr. Griffith's patient is a child in the hospital under the best environment and is well nourished. The question is, how long can he go on? Is it right for us to urge surgical intervention, or should we continue with the medical care? After the child leaves the hospital what is the prognosis? I do not know that we can give a definite answer, but I feel about this disease as I do in pyloric stenosis cases, that the physician and surgeon should get together for a better understanding of what may be required. The physician and surgeon should study whether there should be a fixed time for operation, as there is seldom a necessity for immediate operation, and the patients should be under medical and surgical observation.

PYLORIC OBSTRUCTION OF INFANCY *

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When choosing a name to identify a clinical entity or to classify an ensemble of symptoms, care should be exercised to avoid the confusion caused by adopting a multitude of expressions whose individual intent is to emphasize a striking feature, a common symptom or a supposedly underlying pathologic state, and to assume that each individually or all collectively are synonymously descriptive of the same thing. A misleading nomenclature, representing the expression of the divergent view points, clinical, pathological, etiological, of various investigators, is thus created. The resulting inevitable confusion is responsible not alone for retardation to the advance of medicine itself, but menaces the individual patient's chances for recovery to a considerable degree. Empiricism is advanced at the expense of scientific data from which alone definite diagnostic and therapeutic conclusions may be drawn.

Nowhere has this become more manifest than in that condition common enough to early infancy wherein there is retardation or obstruction to the easy passage of aliment through the pyloric orifice from the stomach into the duodenum. "Congenital pyloric stenosis or obstruction," "congenital hypertrophic pyloric stenosis or obstruction," "hypertrophic pyloric obstruction or stenosis," "pylorospasm," "congenital pylorospasm," have been the variously applied terms attempting first of all to emphasize that

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* Prepared for the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918, but not read on account of sickness of author.

either hypertrophy of the pyloric muscle or spasm was responsible for the state of affairs existing in the individual case and secondly the word "congenital" would seem to indicate the antenatal or at least the natal origin of all cases. A rather extended clinical experience with this disease easily discredits this latter assumption and would classify all cases as postnatal, if this classification were important at all and in the dim light of our present lack of knowledge it apparently is not. This view is held in spite of the fact that so-called hypertrophy of the pyloric muscle has been described by Dent as a postmortem finding in a seven months' fetus.

The terms "hypertrophy" and "spasmodic" applied to the pyloric muscle and based on a poorly understood pathology and etiology, likewise permit the assumption that the narrowing depends on hypertrophy in the one case and spasm in the other, that the former is permanent and therefore always surgical, and that the latter is intermittent and therefore does not require surgical treatment. Theoretical considerations as well as clinical experience do not substantiate this view, especially since in the latter instance the diagnostic conclusion is usually based on the erroneous conception that the palpability or the nonpalpability of the pylorus in any individual case determines respectively the presence or absence of hypertrophy or rather the presence of either hypertrophy or spasm.

Notwithstanding the dictum of eminent authority personal experience does not permit acceptance of the views that palpability of the pylorus always indicates hypertrophy and that hypertrophy always indicates operation.

Referring briefly again to theoretic considerations, it is not only permissible to surmise that the lumen of the pylorus may be entirely obliterated or to such a degree as practically to amount to complete obliteration by a tremendously hypertrophied muscle, but as well that it may not be, i. e., the enlargement may be extracanalicular and not encroach on the lumen at all or to a very slight degree. Per contra, is it not pertinent to query as to whether or not spasm may be so intense and so permanent as to completely or practically completely to obliterate the pyloric lumen; and likewise that it may be so intermittent as to permit of the passage of sufficient aliment to sustain life and to permit growth to ensue? The former would constitute an operative case just as much as one in which the lumen was destroyed by hypertrophy. What obliterates the lumen, either spasm or hypertrophy, does not matter. What does matter is whether or not the lumen is entirely obliterated or partially so and, if so, how much. In other words, does enough aliment pass as indicated by the weight of the baby and the bulk of the bowel movements to sustain life and to provide for growth?

The correct answers to this question, as determined by these standards, viz., the weight of the infant and the bulk of the bowel movement, will constitute the criteria deciding for or against operation in a particular case. Granting for the moment that this is not so but that hypertrophy always indcates operation and that spasm contraindicates it, is it possible in the individual case to determine with any degree of certainty, with the usual methods of examination, as to whether spasm does exist or whether both do and which to the greater degree? In other words, does palpability of the pylorus always indicate hypertrophy and therefore operation as many authors claim and does the inability to palpate the pylorus always indicate the presence of spasm and the absence of hypertrophy and constitute a positive contraindication to operation? The answer to these queries is a firm negative in the light of an extended personal experience to which reference has already been made. The reason may be the better understood by referring to the homely example of the small boy, who proudly exhibits his hardened and distended or soft and relaxed biceps by alternately contracting and relaxing it. Who, blindfolded and feeling a contracted biceps with one hand and a relaxed one with the other, would hesitate to pronounce the former hypertrophied? May not therefore the hard palpable pylorus depend on intense contraction? May not this be more or less permanent? May not the nonpalpable pylorus, on the other hand, be due to hypertrophy while its nonpalpability depends on its location behind the recti or behind a thick abdominal wall? Even at operation it is not possible to determine whether the hard enlarged pylorus is hypertrophic or spasmodic.

The unreliability of diagnostic and therapeutic conclusions, based on an indeterminable pathology and on incomplete methods of physical examination, is thus apparent and may be emphasized by further numerable examples. The conclusion, therefore, is compelling, viz., that cases may not be intelligently studied as long as the present nomenclature and classification remains in vogue and, further, that experience would sustain the greater reliability of a classification, based on clinical findings in preference to assume pathologic states.

It has appeared to the writer that the following offers a simple, succinct and useful classification of this disease. The terms "congenital," "hypertrophic," and "spasmodic" should be dropped and the following nomenclature substituted. Pyloric obstruction of infancy: (1) Surgical, (a) complete pyloric obstruction of infancy; (b) severe incomplete pyloric obstruction of infancy. (2) Nonsurgical, (a) nonsevere incomplete pyloric obstruction of infancy.

SYMPTOMS

Surgical Pyloric Obstruction of Infancy.—This includes all cases in which the symptoms indicate (1) complete obstruction, or (2) incomplete obstruction of such a degree that sufficient aliment does not pass to permit at least the maintenance of nutritional balance. The nature of the weight curve, the size of the bowel movement and the degree of vomiting, especially the two former, largely constitute the determinative clinical criteria with reference to operation; Strauss insists on a special technic in performing fluoroscopic examination and describes peculiar "snake-like, rhythmic, peristaltic contractions, seen in the pylorus, which are independent of the rest of the stomach," as pathognomonic of surgical cases.

The presence of a palpable pylorus and of visible gastric peristaltic waves, while essential, especially the latter, in concluding a correct diagnosis, in no way indicates the positive necessity for operation. In the light of the writer's experience this fact cannot be too strongly expressed, not only because patients exhibiting remarkable examples of this symptom have made brilliant nonoperative recoveries but more so because of the fact that the impression is fast gaining ground that operation is practically devoid of risks and that those who pursue a nonsurgical course in any case where the patient dies are liable to receive the condemnation of their surgical confrères. The brilliant successes reported by Holt and his co-worker (Downes) and more recently those reported by Strauss are largely responsible for this. It must not be forgotten, however, that all cases cannot be surrounded with the ideal environment in which these clinicians and surgeons worked. Further, it may be stated that visible gastric peristalsis may persist long after recovery has ensued.

(a) *Weight Curve.*—This is progressively downward and when recorded over the duration of a week or more resembles a pneumonia temperature curve at the stage of crisis.[1]

(b) *Bulk of Bowel Movement.*—This varies directly as to the degree of obstruction and as to the permanency of its duration. Where the obstruction is complete or nearly so the anal discharges show nothing but thick bile-stained mucus or they contain in addition the faintest traces of milk elements (curds). In the case of incomplete but nevertheless surgical obstruction, while the anal discharges contain comparatively considerably more milk elements, the entire bulk is decidedly small and indicates to the experienced clinician that the amount of aliment passing through is insufficient to maintain life very long. These types of obstipated stools are constantly associated with the type of weight curve to which reference has just been made.

(c) *Vomiting.*—The intensity of vomiting varies directly as the degree of constipation since both are dependent on the intensity and permanency of the obstruction at the pylorus.

Triad of Symptoms of Surgical Cases.—(a) Continuous depression of weight curve; (b) nonfecal or slightly fecal stools of small bulk; (c) continuous and severe propulsive vomiting.

Other Determinative Symptoms.—Roentgen studies reveal graphically the amount of aliment which passes through the pylorus. They are not conclusive, however, *per se*. Further experience with Strauss' so-called pathognomonic fluoroscopic phenomenon is necessary before it may be finally accepted. Charcoal given by mouth in 10-grain doses may be recovered by stomach washing in considerable amount twenty-four hours after administration, and it appears not at all or very late and then in very minute amounts in the anal discharges.

Nonsurgical Pyloric Obstruction of Infancy: (a) *Weight Curve.*—All cases of incomplete obstruction in which sufficient aliment passes to maintain at least for a more or less extended period of time the nutritional balance, or in which there is but slight loss in weight and in which the weight curve records alternate losses and gains, but in which the general trend is horizontal, may be classified as nonsurgical. The weight curve resembles that part of the curve of typhoid fever designated as the fastigium.[2] Sooner or later a gain in weight is recorded and is practically continuous except if an acute alimentary disturbance intervenes.

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[1] Lowenburg, H.: Infant Feeding and Allied Topics, F. A. Davis & Co., Philadelphia, p. 317, Fig. 49.

[2] Lowenburg, H.: Infant Feeding and Allied Topics, p. 326, Figs. 52 and 53.

(b) *Constipation.*—This is present but is not complete. The stools are of fair bulk. This varies from time to time. They always exhibit food elements in preponderating amounts.

(c) *Vomiting.*—This varies in intensity with the degree of obstruction. It may be severe at times, while, on the other hand, it may diminish in frequency.

These cases have erroneously been regarded as being always dependent on spasm. It has been shown that either hypertrophy or spasm or both may be operative in any kind of a case. It would appear, however, that we cannot dismiss lightly the rôle of spasm even in hypertrophic cases. The writer wishes to record his opinion that the majority if not all cases are inaugurated initially as spasm which ensues as the result of irritation of the pyloric mucosa and that any resulting hypertrophy is entirely secondary. This opinion seems to find some verification in the roentgen and fluoroscopic studies of Strauss.

Roentgen and fluoroscopic studies indicate that considerable food passes via the pylorus and this is also true of the charcoal test.

Résumé of Symptoms of Nonsurgical Cases: (a) Weight curve which is horizontal in its general trend; (b) bowel movements are of fair bulk and always exhibit considerable food elements; (c) vomiting is variable.

TREATMENT

Surgical Treatment.—The operations at present performed are posterior gastrojejunostomy, Ramstedt's operation and Strauss' operation, which is designed to include the advantages and simplicity of the Ramstedt operation and to reconstruct the pyloric muscle. Professional opinion as to the final choice of operative procedure has not been crystallized. The trend seems to discontinue gastrojejunostomy or as it is commonly designated gastro-enterostomy, although the writer's experience with this operation in the hands of Dr. John B. Deaver, and with one case in which operation was performed by Dr. Francis T. Stewart, has been most satisfactory. In some ten or fifteen cases there was but one death and this patient was *in extremis.* Five of my cases have been operated on by the method of Ramstedt and three of the patients died; in one the abdominal wound ruptured, and the child died of shock following postoperative evisceration, the abdominal wound having spontaneously opened. This, of course, should not be credited to the method of operation, although the operator perforated the gastric mucosa and was compelled to suture it. Of the two other patients who died, one succumbed to hemorrhage and the other died apparently of shock. The former was not emaciated, the latter was. Holt and Downes record remarkable success with the Ramstedt operation, having reduced the mortality from 58 per cent. to 24 per cent. or 26 per cent.

Strauss claims a death rate of but 4 per cent. in a series of sixty-five cases. His plea for operation, based on fluoroscopic studies with reference to the snake-like independent rhythmic contractions of the pyloric muscle and the retention of half or more of the bismuth within the stomach four hours after administration, while making for scientific accuracy, in my judgment is too radical and dangerous, in view of some of the brilliant nonoperative recoveries which I have witnessed. As yet the need for operation must be based almost entirely on clinical grounds and personal judgment, which being human is bound to permit mistakes to occur in spite of the most painstaking care. It is the writer's opinion that surgical mortality is largely influenced by the personal equation of the operator and is entirely or nearly so independent of the choice of method of operating.

Nonsurgical Treatment. — The indication which principally engages our attention is the control of vomiting. This may be met by (a) dietetic management; (b) stomach washing; (c) medicine.

Dietetic Management.—It is probably best to keep these babies on the breast although in not a few instances it has seemed good practice to make use of a highly alkalinized artificial food. Hence good results have been noted especially with diluted skim milk formulas modified by malt soup extract or pancreatized skim milk or skimmed milk to which sodium citrate has been added. It is probably best to feed small amounts often, say one half to one ounce hourly. One minute's nursing every hour, gradually increased to two minutes and three minutes, and so on up to five minutes, was responsible for a brilliant recovery in a breast-fed patient seen in consultation with Dr. James Williams of Philadelphia, who suggested this plan of management. If breast feeding fails, therefore there is no objection to trying artificial feeding as above recommended provided the change is made advisedly and knowingly, and not empirically as so many of these cases are managed, the practitioner being entirely unaware of the true nature of the trouble, usually regarding the breast milk as at fault *per se* and in the ordinary sense and as the cause of the vomiting, and not recognizing the case as one of pyloric obstruction at all.

The treatment advised by L. W. Sauer of Chicago and published in the July (1918) number of the *Archives of Pediatrics,* in which he recommends the feeding of thick farina in varying amounts, is fascinating and illuminating, but scarcely based on intelligent and philosophical reasoning. The farina is recommended for its "thickness" and is supposed to act mechanically, i. e., it is not so easily vomited as liquids. It should, however, be also remarked that solids do not pass as readily through a narrow orifice as do liquids, it being likewise recognized that the curd of milk is not a liquid but that the attempt to keep milk liquid in the stomach may be made by the addition of sodium citrate. Any other thick gruel will answer the purpose. Alternate breast and farina feeds are given. Where the former are vomited, the farina alone is fed. The charts which he published are convincing. His results were brilliant and immediate. My own experience is limited to five cases. The first case was one of incomplete obstruction and the patient did well for a while and then disappeared from observation before treatment was concluded. Another case of incomplete obstruction is doing well on combined malt soup extract and farina feedings. In three cases of complete obstruction the treatment utterly failed as it might have been expected to do. Sauer does not seem to have classified his cases carefully. It appeares dangerous to laud a special line of treatment either surgical or medical as a panacea in so complicated and so little understood disease as pyloric obstruction, and it seems odd that two such methods (Strauss and Sauer) should have had their origin within the confines of the same city, Chicago.

Stomach Washing.—Daily or bi-daily or more, stomach washing with a warm bicarbonate soda solution has its staunch advocates, notably in Still of London. Why it should do good is uncertain. That it does so is problematical. I have used it in many cases but am not sure that the patients recovered on account of it, or in spite of it. My belief is that unless the good effects are immediate it should be discontinued as it is decidedly exhausting to some infants. On the other hand, I have repeatedly seen infants sleep during the procedure. Sauer, in conjunction with his farina treatment, washed the stomach with 1 per cent. solution of sodium citrate.

Medicine.—I have come practically to disregard all drug therapy except bromid. I prefer the bromid of strontium in water four or five times daily before feeds. In breast-fed babies I have administered as high as 10 to 20 grains of sodium citrate before nursing. Occasonally I have used $\frac{1}{750}$ grain of atropin sulphate four times daily, but am uncertain as to its effect.

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WEANING *

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This paper is presented with the object of eliciting a free and thorough discussion of the many problems which arise in connection with the subject of weaning. Personally, I have very definite ideas on the subject, but it is evident that my ideas do not agree with those of many practicing physicians.

I see children who are weaned, and put on various mixtures, and often on infant foods, where in my judgment it would have been better not to have weaned entirely or perhaps not to have weaned at all. One sees these cases so often that I think we should all say very frankly just what we think about weaning, and if possible arrive at some conclusions that will satisfy most if not all of us.

The importance of breast feeding should be insisted on. Breast milk is the best food for the infant. It is well known that the milk of each mammal is peculiarly adapted to supply the demands of nutrition for the growing body of its young, and to develop its digestive apparatus. If, then, an infant is nursed by its mother, its digestive apparatus develops normally, and prepares the child to digest other foods than its mother's milk.

There are many mothers among the wealthier class who are not able to nurse their babies for the entire period that is usually considered proper, ten to twelve months, and one may find among the working class, women who are so poor that they have to leave their babies at home or in a day nursery, and go out to work. Occasionally these women are unable to nurse their infants because of insufficient food, bad hygienic surroundings, and overwork, but the large majority of American women are able, and most all of them can be persuaded to try to nurse their babies. Almost all deaths occur in bottle-fed babies. During the famous siege of Paris the women had to remain home and nurse their babies, and in spite of all the privations and hardships which they underwent the infant mortality in Paris actually decreased.

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

It is not sufficient grounds for weaning a baby, because the infant does not gain a certain number of ounces every week, because it vomits occasionally, or has abdominal pain, or the stools are not normal in color or consistency. It is probably true that the breast milk that this child is receiving is not an ideal food, but instead of weaning the baby, one should inquire into the health of the mother. Does she get the proper hours of sleep, the right kind of food, and an abundance of fresh air? Is she worn out by household care and worries or overwork? Regulate her food, sleep and exercise. Examine carefully as to all the facts connected with the baby's feeding, especially as to frequency, and length of nursing periods. Is it living out of doors? Are its sleep, clothing, and bathing properly attended to? In other words, we would approach the subject of weaning from two directions. First of all, we should do all we possibly can to improve the health of the mother, and second, we should put the baby under those conditions that would be best suited to its normal health and development, and would indirectly have a tendency to benefit its digestion. If, after doing all this, the baby still fails to gain in weight, and the amount of breast milk is clearly deficient, a small amount of properly modified milk may be given after each breast feeding. This plan of giving after each breast feeding a sufficient amount of properly modified milk to compensate for the deficiency in the breast milk is applicable to a very large number of breast-feeding infants.

If it is found that at the proper time for nursing the breasts are practically empty, then a properly modified milk mixture may be given to take the place of the nursing. One or more such bottles may be given every day. We must, however, not forget that the nursing of the infant keeps up the secretion of breast milk, and therefore no more breast feeding should be omitted than is absolutely necessary.

It is a common thing to wean a baby because an analysis of the mother's milk shows that it does not conform to the accepted standard of breast milk. This normal standard may vary between very wide limits. Different specimens taken from the same mother may vary, and the milk nursed by an infant may differ from the milk drawn from the same breast with a pump. It is also a fact that there is a difference in the composition of fore, middle or end of a nursing milk. Then again an analysis of breast milk is expensive. Several analyses of the same milk are often necessary before its average composition is determined.

I do not wish to go on record as not believing in the analysis of breast milk, but I do wish to enter a protest against weaning a baby simply because the breast milk does not come up to a certain set standard.

I believe that a poor breast milk is often better than a bottle, and it is usually unwise in this case to wean a baby until one has done everything possible to improve the quantity and quality of the breast milk. We of course all appreciate that breast milk contains certain substances that are very important for the infant, and of great protective value. There are, of course, occasional cases where breast milk should not be given, but they are in my opinion and experience very rare indeed.

WHEN AND HOW THE BABY SHOULD BE WEANED

It is always a safe plan to begin with a cow's milk mixture which is considerably weaker than what would be given a healthy baby of the same age who had been raised on a bottle. A fair average would be to start the milk formula at about one-half the strength of what would ordinarily be given to a healthy infant that was of the same age as the baby to be weaned. If the child can digest this, the formula can be cautiously increased.

It is wiser as a rule not to wean the baby during the hot summer months. The change from the breast to the bottle during the heated term is very likely to cause gastro-intestinal disturbances. This, of course, would not hold true in infants who are taken to a cool climate during the summer months. Always if possible wean slowly rather than rapidly. At first give one bottle a day. If this agrees in the course of three or four days a second bottle feeding may be given. In this way the breast feeding can be gradually discontinued.

A baby should be weaned if the mother has any disease which she may transmit to her nursing infant, such as typhoid fever, or tuberculosis, or if the mother has any disease which the nursing might have a tendency to aggravate, as nephritis, tuberculosis, or acute pneumonia. If the mother becomes pregnant, the infant should be weaned, but sudden weaning is not necessary, one or two weeks can usually be taken in the gradual withdrawal of the breast. If the mother is suffering from some comparatively mild disease, but the symptoms from that disease are very severe, it is often safer to discontinue nursing entirely for a few days, and put the child on a weak formula. The breasts should be pumped, and after the severe symptoms have disappeared, the child may be returned to the breast. If the illness of the mother is of a slight character, and her symptoms mild, and the disease cannot be transmitted to the nursing baby, the infant may be nursed every other feeding, and a weak cow's milk mixture be given every other feeding. Menstruation may cause temporary gastro-intestinal disturbance in the infant, and make it necessary to institute complete or partial weaning for a few days.

If mastitis develops in the mother, temporary weaning very often is necessary, and, if the inflammation has been severe, nursing must be resumed cautiously.

In most cases weaning depends on the ability of the mother to nurse her baby. If the amount of milk secreted is not sufficient for the nutrition of the infant, additional feedings of cow's milk should be given.

Nursing should not be prolonged much beyond a year simply because the baby is doing fairly well. Anemia, subnormal development, and failure to gain in weight is a common rule in these cases. I believe it is a wise plan, if a baby nine months old is doing well at the breast to begin giving it one bottle feeding a day. This bottle feeding is a good thing because it begins to train the digestive organs of the infant to digest cow's milk, and it makes weaning less abrupt. Almost all physicians have had the disagreeable experience of a baby weaned abruptly refusing to take the bottle.

A syphilitic wet-nurse should not be allowed to nurse an infant, and an infant who has syphilis should not be allowed to nurse a healthy wet-nurse. An infant suffering from inherited syphilis may of course be nursed by its own mother.

The regulation of the diet of the pregnant woman, being sure that she takes sufficient nourishment, is the best prophylaxis for rickets. She should during this period live in the best hygienic conditions possible, and if after the baby is born she has an abundance of good breast milk, rickets will not develop.

In summer the nursing baby should be given plenty of water to drink. It often cries from thirst, especially in hot weather, and not from hunger.

The amount of food taken by the nursing infant is a matter of importance as regards nutrition, weaning, and gastro-intestinal disturbances. An ounce of breast milk weighs just about an ounce, and if the infant is weighed before and after a nursing, the difference in the weight represents the number of ounces nursed. The following table has been made up from a number of records of my cases in private practice:

QUANTITY IN TWENTY-FOUR HOURS

7 days old	10 to 16 ounces
2 weeks old	14 to 20 ounces
2 to 4 weeks old	18 to 24 ounces
4 to 8 weeks old	22 to 29 ounces
2 to 3 months old	25 to 32 ounces
3 to 4 months old	26 to 35 ounces
4 to 6 months old	27 to 38 ounces
6 to 9 months old	30 to 41 ounces

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THE LABORATORY AS AN AID IN THE TREATMENT OF DIABETES MELLITUS *

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During the past several years there have become available for the general hospital and clinician, tests for accurate quantitative studies in cases of diabetes mellitus; tests that require small amounts of material and in some instances do not consume much time nor require great technical skill.

If a case of glycosuria presents itself the question is, is it a case of diabetes mellitus, and if so is it severe or mild, and finally what is to guide us in the treatment? This information is best obtained through the laboratory and certainly is essential to properly treat the case.

In choosing the tests to be discussed in this paper I have endeavored to select those that are no longer in the experimental stage but have a definite clinical value, tests that can be done in the laboratory of a well-equipped hospital.

BLOOD SUGAR

Blood sugar in normal individuals varies from 0.07 per cent. to 0.15 per cent., depending on the diet. In interpreting blood sugar it must be remembered that the permeability of the kidneys is a great factor.

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session. Sept. 25, 1918.

It has been shown by Hamman and Hirschman,[1] also by Foster,[2] that glycosuria appears after the blood sugar has reached a concentration of 0.17 per cent., but this is not without its exceptions. In renal glycosuria we do not get blood sugar figures above the normal values, while the reverse is true in diabetes with nephritis. In the latter case the permeability of the kidneys is decreased and hence a higher threshold before glycosuria occurs. Occasionally as the nephritis advances the glycosuria will disappear, but the hyperglycemia will still exist. In severe cases of diabetes the renal threshold for glucose may be decreased and hence it is that we have cases of glycosuria in diabetes with the blood sugar within normal limits.

The time to take the blood for examination is best determined by referring to the work of Hamman and Hirschman[1] and that of Mosenthal, Clausen and Hiller.[3] The former followed the blood sugar curve in normal and diabetic individuals after giving 100 grams of glucose. In normal persons the curve reached its height in about one-half hour and the base line in one to two hours. The blood sugar was always below 0.15 per cent. In diabetic cases the highest figures were obtained in from one to two hours while the fasting level was not reached until three or four hours had elapsed. The blood sugar concentration was always above 0.2 per cent. after taking glucose.

Mosenthal, Clausen and Hiller[3] studied the blood sugar curve in diabetic patients on a carbohydrate free diet or on one containing a moderate amount of starch and found a maximum percentage one or two hours after breakfast. The glycemia occasionally rose higher after lunch and supper but never to any marked degree. Frequently it fell considerably in the afternoon and evening. The blood sugar often remained constant throughout the day while on the above-mentioned diets, if the fasting blood sugar was low and the case mild. On the other hand, if the blood sugar was reduced by previous dieting, the increased glycemia became marked on the above diet. They explain this phenomenon as follows: "This leads to the conclusion that cases of diabetes mellitus in raising their fasting or basal blood sugar percentage are trying to adjust their carbohydrate metabolism for the more advantageous utilization of glucose. It may be desirable, therefore, not to attempt to reduce the blood sugar to normal value in cases of diabetes mellitus."

In brief, the best time to determine the amount of blood sugar as an aid in diagnosis and treatment of diabetes is that time when the blood sugar is at its maximum concentration, and that apparently is one-half hour to two hours after breakfast. If one desires the fasting level it should be taken before breakfast.

In the selection of methods for the determination of blood sugar the Lewis and Benedict,[4] or the Myers and Bailey[5] modification are the methods of choice. After these the method of Bang[6] or that of Epstein[7] would be recommended. They all require small amounts of blood. In the method of Lewis and Benedict and that of Myers and Bailey the blood is obtained by venous puncture; in the other tests by finger puncture. Although venous puncture when performed by an experienced person is no more painful than finger puncture, it is looked upon as a more formidable operation by the patient, and hence a possible advantage of the finger puncture method in some cases, especially where repeated examinations are required.

ACIDOSIS

The one symptom to be combated and feared in diabetes mellitus is coma and as coma is, with rare exception, always accompanied by an acidosis, it is evident that any laboratory method that we have to detect and measure the degree of acidosis is of great value.

Knowing that in normal individuals the blood bicarbonate reserve remains constant, any decrease in the bicarbonate content may be defined as an acidosis. The value of studying acidosis as a means of watching the progress of the case is obvious. Since many physicians use bicarbonate of soda in the treatment of acidosis, how are we to gauge the amount to be given?

Sellards[8] and others have shown that, in the normal individual when the amount of bicarbonate of soda administered is greater than the normal requirement, the excess is voided in the urine and an alkaline urine results; therefore, an alkaline urine has always been taken as a sign that sufficient bicarbonate of soda has been administered. Henderson[9] and his co-workers, in their work on acidosis, have always cautioned against the harmful effects of the administration of an excessive amount of bicarbonate of soda. In a normal individual an alkaline urine is the signal that a sufficient amount of bicarbonate of soda has been given. In many diabetics the kidneys are also diseased and hence a lessened permeability, with the result that the urine remains strongly acid after a sufficient amount of bicarbonate has been given to bring about normal alkaline reserve.

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[1] Hamman, L., and Hirschman, I. I.: Arch. Int. Med. 20, 761, 1917.

[2] Foster, N. G.: Am. Soc. for the Advancement of Clinical Investigation, 1917.

[3] Mosenthal, H. O., Clausen, S. W., and Hiller, A.: Arch. Int. Med. 21, 93, 1918.

[4] Lewis, R. C., and Benedict, S. R.: J. Biol. Chem. 20, 61, 1915.

[5] Myers, V. C., and Bailey, C. V.: J. Biol. Chem. 24, 147, 1915.

[6] Bang, I.: Der Blutzucker, Wiesbaden, 1913.

[7] Epstein, A. A.: J. A. M. A. 63, 1667, 1914.

[8] Sellards, A. W.: Bull. Johns Hopkins Hosp. 23, 289, 1912.

[9] Henderson, L. J.: Arch. Int. Med. 12, 153, 1913.

In these cases the blood bicarbonate may reach an amount far in excess of normal before the urine becomes alkaline; in fact, a state of alkalosis may be created with the symptoms of tetany. Van Slyke and Palmer[10] have shown this very fact. They have followed the effects of the administration of bicarbonate on the blood reserve, using the Van Slyke[11] gastrometric method. Many of their cases showed a normal blood bicarbonate with a strongly acid urine, and before the urine became alkaline almost a state of alkalosis was reached. We may also encounter a condition where sufficient alkali has been administered to bring about a normal bicarbonate reserve, and yet have the patient die of diabetic coma.

In selecting methods for the determination of blood bicarbonate reserve we can choose those tests which measure the alveolar carbon dioxid tension or that test which measures the carbon dioxid content of the blood. Since the alveolar carbon dioxid tension varies with the carbon dioxid content of the blood and as the carbon dioxid content is dependent on the amount of alkaline base available to form soda bicarbonate, those methods which determine the alveolar carbon dioxid tension or the blood carbon dioxid content measure the bicarbonate reserve of the blood.

The methods for the determination of the alveolar tension are the Marriott,[12] the Plesh-Higgins[13] and Fridericia.[14] For the clinician and general hospital the Marriott method is the method of choice because of its simplicity and at the same time, accuracy. For the determination of the carbon dioxid content of the blood the Van Slyke method is to be preferred. Although the alveolar carbon dioxid tension and the results from the Van Slyke method parallel each other closely, the latter method is more delicate and requires no cooperation on the part of the patient. There are many sources of error which may creep into the alveolar carbon dioxid tension methods to interfere with accurate results, such as irritability of the respiratory center, excitement, pathological conditions or the influence of drugs, which may affect the respiratory center.

As the acidosis of diabetes in most instances is due to the incomplete combustion of fat, with the consequent formation of the intermediary products of fat metabolism, namely, beta-oxybutyric acid, diacetic acid and acetone, it is evident that the determination of the amounts of ketone bodies in the blood and urine will give us an idea of the intensity of the disturbance of fat metabolism and the resulting acidosis. The quantitative determination of the ketone bodies is of value for the thorough study of a case of diabetes, particularly in those showing acetone and diacetic acid qualitatively The Van Slyke[15] method for the quantitative determination of ketone bodies in the blood and urine is the best method. It can be carried out in any hospital laboratory equipped to do chemical work.

The determination of the ammonia content of urine as an index of the degree of acidosis is satisfactory but not the method of choice. Where it can be done it adds another link to the chain of our knowledge of the case.

One of the characteristics of diabetics, especially in severe cases, is the loss of weight and with this a greater loss of nitrogen in the urine, than in the normal individual. The resting organism requires a certain number of calories which it derives from the carbohydrate, fat and protein in the order mentioned. If the body is not able to use carbohydrate the number of calories necessary is obtained from the fat and protein of the food. If a sufficient number of calories is not derived from food, the body burns its own fat and protein with a consequent loss of weight. Where there is an impairment of the carbohydrate metabolism a certain amount of protein is converted into glucose, depending on the severity of the case. Fifty-eight per cent. of the total protein molecule can be converted into glucose; this is exactly what occurs in the absolute diabetic. Therefore, since the total diabetic is unable to utilize any of this glucose, it is quantitatively eliminated in the urine. The ratio of glucose to nitrogen eliminated in the urine gives us the dextrose nitrogen ratio, which in the absolute diabetic is 3.65, the so-called fatal ratio. Recently, with the Allen treatment, there have been reported cases with a dextrose nitrogen ratio of 3.65 and the patient later recovered a certain amount of carbohydrate tolerance and markedly improved. In the treatment of diabetes we should endeavor, among other things, to conserve body protein. The smallest amount of protein which will do this is that amount in the food which will bring about a nitrogen equilibrium; that is, the intake of nitrogen should be the same as the combined amount in the urine and feces. Mosenthal and Clausen[16] have endeavored to do this by giving a sufficient amount of carbohydrate-free food to meet the caloric requirements of the patient and, at the same time, have the proportions of fat and protein such as to bring about a nitrogen balance. The caloric requirements for the individual were determined by the height-weight formula of DuBois and DuBois.[17] Individuals within certain age limits, when at rest, and after fasting for a number of hours, require a certain number of calories per hour for every square meter of body surface. The body surface can be obtained by the DuBois formula if one knows the height and weight of the patient. For the determination of total nitrogen the Kjeldahl is the best.

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[10] Palmer, W. W., and Van Slyke, D. D.: J. Biol. Chem. 32, 499, 1917.

[11] Van Slyke, D. D.: J. Biol. Chem. 30, 347, 1917.

[12] Marriott, W. M.: J. A. M. A. 66, 1594, 1916.

[13] Higgins: Pub. No. 203 Carnegie Inst. of Washington, 1915, p. 168.

[14] Fridericia, L. S.: Hospitalstidende, 57, 585, 1914.

[15] Van Slyke, D. D.: J. Biol. Chem. 32, 455, 1917.

The case to be reported is of interest, (1) because of the apparent recovery of a child, 10 years old, from diabetes (of course time alone will tell whether the recovery is permanent); (2) from the laboratory viewpoint; and, (3) the possible infectious origin, following chickenpox.

The patient, son of a physician, was admitted to the University Hospital, Jan. 23, 1918, on the service of Dr. O. H. P. Pepper. In December, 1917, he had an attack of chickenpox which ran a normal course. Shortly after the recovery from the chickenpox the father noticed that the boy was languid, losing weight, and drinking more water than usual. On examining the urine he found 5 per cent. sugar and traces of acetone and diacetic acid. The boy was immediately put on restricted carbohydrate diet and January 23 was admitted to the University Hospital. On the following day the laboratory reported the following: Total nitrogen, 10.1 gms.; glucose, trace; ammonia nitrogen, 1.08 gms.; total ketones, 7.96 gms.; blood carbon dioxid, 58 volumes per cent.; blood sugar, 0.29 per cent. After fasting for several days the urine became sugar free, blood sugar within normal limits, ketones gradually reduced to 0.148 gms.

After the addition of carbohydrate to the diet, within two weeks ketone bodies had disappeared from the urine, glycosuria disappeared and at no time since has the urine shown any of the characteristics of a diabetic specimen. The urine and blood have been quantitatively studied weekly until June and at all times was within normal limits. Carbohydrate has been gradually added to the diet until the amount is about three-fourths what is was before patient became ill. The blood sugar, September 14, was 0.111 per cent. one and one-half hours after breakfast.

The boy is growing, is full of vigor, attends school regularly and is apparently well. His diet is still carefully controlled and as a matter of precaution his carbohydrate will be somewhat restricted for an indefinite time, increasing the number of calories at intervals to keep pace with his normal growth and increase in weight.

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APPENDICITIS IN CHILDREN *

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One might think an apology were necessary to talk about appendicitis but such is not the case, as one may look into the records of the surgical clinics of any large hospital and there find that but few of the cases of acute appendicitis are sent to the hospital within the first twenty-four hours of the attack.

The question of appendicitis in children is one of diagnosis, a disease which, formerly thought to be rare, has with our increased experience and our improved diagnostic skill been found to be much more common. Appendicitis in its early stage is more difficult to diagnose in children for the reason of the frequency of gastro-intestinal disturbances, intestinal parasites and other diseases of childhood, which give rise to abdominal symptoms. In some diseases, hesitation, delay, lack of decision and inaction are not fraught with grave consequences, but in acute appendicitis and other acute surgical diseases such a course may cause the patient to perish. Often, too, where a correct diagnosis is not made, the treatment may be positively harmful.

The onset of acute appendicitis in children, as in adults, may be sudden or insidious. A history of antecedent attacks of abdominal pain or gastro-intestinal disorder may or may not be elicited. The symptoms of onset are unusually sudden and severe and the progress of the disease rapid. Vomiting is common. Pain is usually severe, sometimes violent and may be localized in the epigastrium, umbilical region, right iliac fossa, or it may be of a general abdominal character. In not a few instances will the child, if not too young, as similarly will adults, make the diagnosis for the physician by placing the hand over the right side of the abdomen.

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[16] Mosenthal, H. O., and Clausen, S. W.: Arch. Int. Med. 21, 269, 1918.

[17] DuBois, D., and DuBois, E. F.: Arch. Int. Med. 17, 863, 1916.

* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

In the first few hours of an attack of acute appendicitis there is usually no elevation of temperature or increase in the pulse rate. However, as we have seen, the progress of the disease is more rapid in children than in adults, and there is a greater likelihood of pus formation and a general peritonitis occurring early in the disease; there is also less tendency in children toward a walling off of the abscess. I think the local physical examination is the most important. Rigidity of the abdominal wall is usually present; there is tenderness on pressure and one may on palpation find a fullness or a swelling in the right lower abdomen. The appendix occupies a lower position in children than in adults and it may be an occupant of the pelvis; it has been found in the scrotum in four instances in cases reported by Dr. J. P. C. Griffith.

The low position of the appendix also explains the greater frequency of the vesical symptoms in children. In the presence of a pelvic collection the child may have rectal tenesmus. In doubtful cases in children a very gentle digital rectal examination should be made in order to determine whether tenderness or a mass be present.

Occasionally the onset of acute appendicitis is insidious, the child complaining of a moderate degree of abdominal pain, or perhaps slight pain and vomiting, together with some elevation of temperature, increased pulse rate, loss of desire for food, etc., but on physical examination of the abdomen a "mass" may be found. I think one should hesitate to make a diagnosis of indigestion in the presence of severe abdominal pain, especially if the bowels are not loose, without being able to eliminate acute appendicitis from the diagnosis. I do not believe much in "bellyache," due to indigestion either in children or in adults, but believe there is an underlying pathology.

In patients with abdominal pain I always think first of the appendix until I can demonstrate by the history and physical examination that the so-called cramps are due to another cause. The psychology of some people is always first to consider the rarities, or one might say things almost impossible. I am a firm advocate of familiarizing oneself with abdominal catastrophes or other conditions which demand immediate recognition for the salvation of the patient. Those not familiar with these diseases should read about them, think about them when awake, dream about them while asleep, and then they will diagnose most of these cases and cases with other diseases as well. Above all, examine all bellies if abdominal pain be present.

In the diagnosis we all know that pneumonia in its early stage with its referred abdominal pain may be difficult to differentiate from appendicitis; intussusception, tuberculous peritonitis, typhoid fever, incomplete hernia, etc., all require careful consideration. I had a case of a boy, eight years of age, with an undescended testicle of the right side with severe pains in right lower abdomen. Enterocolitis and so-called toxemia may in some instances simulate appendicitis, as may Pott's disease, right-side renal or ureteral calculi. The mortality in late operation in this disease is as high as 25 per cent.

TREATMENT

Among those well informed there is no difference of opinion as to treatment of appendicitis. One occasionally, however, does meet a physician who should be acquainted with present-day methods of treatment of appendicitis, but who is still giving the old Rochelle salt treatment.

Do not purge, do not give enemata, do not give anything by the mouth. Operation immediately should follow diagnosis.

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LABORATORY METHODS—THEIR VALUE AND PRACTICABILITY IN GENERAL MEDICINE *

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The excuse for presenting a paper on an elementary subject before such a society as this lies in the fact that, while the subject of the paper is elementary, while the matter is taught in all medical schools and is dwelt on in every book on diagnosis, the general practitioner apparently forgets the principles, certainly he wofully neglects them. The paper will be a plea for accurate diagnosis.

I would define an accurate diagnosis of a diseased condition as a process of arriving at the character of a disease by a detailed examination. Physicans differ in their experiences, in their ability to correlate their findings, in the knowledge of the significance of their findings, yet the only practical difference between those

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* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

we call in consultation and ourselves is that the consultant has formed the habit of (1) history taking; (2) thorough physical examination; (3) routine laboratory examinations. The only possible means of arriving at a correct diagnosis is this attention to detail.

The man does not live who can guess at conditions and not sooner or later make a mistake, who can persist in snap diagnosis and not be frequently mistaken.

We all of us know general practitioners throughout the country who, despite the general demands made on them to deliver children, to answer calls made by hysterical patients, and a multitude of other duties, still take time to make a detailed study of all their cases. Such men make few mistakes, and must certainly have a great mental satisfaction in the knowledge that they have not wilfully or carelessly neglected any detail.

THE HISTORY

It is well to take the history in a careful detailed manner. This history should be recorded. After consideration of the case is made much easier if the findings of the first examinations are put on record. One case will be sufficient to show the value of a careful history:

Dr. G. B. F. presented himself for examination in January, 1914. For five years he had had some discomfort in the region of his liver and in the left lower abdomen. There was regurgitation of food, no actual sharp pain; this discomfort apparently had no relation to eating. The one physical sign present at that time was slight cardiac arrhythmia. He returned in the fall of 1915, complaining of pain in his epigastrium, three or four hours after eating, which was relieved by eating and relieved by the use of alkalies. For the past ten days he had been worse. At this time the heart was entirely normal, and examination of his stomach contents showed free hydrochloric acid 21 per cent., with a total acidity of 45 per cent., no blood, no lactic acid. His blood count was normal, urine normal. He was roentgenrayed by Pancoast and a negative finding was sent, so far as an ulcer or other organic condition of the stomach or duodenum was concerned. He returned in 1916 with the same history of pain three or four hours after eating, relieved by eating. In January, 1917, a second roentgenogram was made, which was still negative so far as ulcer or other organic condition was concerned.

In the spring of 1918 he again returned, saying that he had been well until April, 1918, when he began to have exactly the same sort of pain three or four hours after eating, relieved by eating and by alkalies. He could keep himself free from pain by eating and by alkalies. On each of these occasions he had been urged to have an exploratory operation, on account of the history, and in spite of the negative roentgenray findings. In April, 1918, the summary of the roentgen-ray findings was that the stomach was negative, that the duodenum was suspicious but not positive. The phenomena found were not incompatible with gallbladder disease. He was again requested to have an operation done, in the belief that he had a duodenal ulcer. The abdomen was opened by Dr. Deaver in the middle of April, 1918. A large indurated ulcer was found on the anterior portion of the third part of the duodenum. A pylorectomy was done, and the patient returned home free from symptoms, and has remained free from symptoms ever since. Doubtless this is an entire cure.

As will be seen, the physical examination, the laboratory examination, including roentgenologic examination, were negative, but because of the character of the abdominal pain and its relief by taking food, the chronicity and periodicity, an operation (suggested three years before) was performed by Deaver. Surely here the careful history was the life-saving part of the diagnostic procedure.

THE PHYSICAL EXAMINATION

The careful physician undertakes to examine every organ in the patient's body, and to do this in a routine manner. To do less is to court disaster. Just as it is hazardous to take an incomplete history. It makes little or no difference what plans of examination are followed, so long as there is a plan, and every organ is examined in a routine manner. It, however, is a pernicious method to examine first the organ to which the patient's attention is attracted. If one chances on an abdominal lesion, he is apt to forget or neglect to examine the heart, lungs and genito-urinary tract, for instance, and any one of these may be the original source of the actual trouble, or an important complicating condition. An instance is shown in the following notes of a case:

Mrs. R., a patient, May, 1918, had not been entirely well for some time. Attacks of nausea would come on when she was tired or nervous. No diarrhea, no pain. Nausea so severe that it would put her to bed. Vomiting; each attack lasted several days. Generally between attacks she would be normal in every way. She complained also of great tired feeling and shortness of breath. Since Christmas more ill; began with severe headache; lost much weight, appetite poor because food made her sick; slept well; still no pain; had fever all the time, 99 to 101; no dyspnea, no edema. Urine was negative, passed normal amount. Several lower teeth were bad, upper all gone, no gland involvement. She was operated on for tumor, eighteen years ago; no other illness. Three children were living, one dead. Lungs were normal.

Heart: Dullness midsternum, midclavicular line. A loud, very rough mitral-systolic murmur conducted into the axilla; no abdominal tenderness; stomach not dilated; spleen not enlarged; kidneys not felt; patellar reflexes O. K.

April 21, 1918: Blood, hemoglobin 55 per cent., red blood count, 2,770,000; white blood count, 12,400;

polymorphonuclears, 74 per cent.; lymphocytes, 25 per cent.; large, 4 per cent.; transitional, 1 per cent.; eosinophils, 1 per cent.

April 28, 1918: Has had a better week; fever less continuous; pulse regular; heart murmur seems less rough; heart midsternum, just outside nipple line; vomiting gone, scarcely any headache.

May 20, 1918: Past week, May 9, had headache and vomiting discomfort with nausea and occasional vomiting; lately a slight, dry cough; did not vomit often. Vomited twice a day. No abdominal pain; sleeps fairly well. About one week ago complained of pain in great toe. This was followed by a bluish spot. Has considerable pain, worse in her head; complains occasionally of pain in various parts of her body. A few red pin-point areas over legs; same large spot over breast where ice bag lay; spot still present.

This patient was supposed to be suffering from a primary gastric condition, cancer of the stomach. She had emaciated greatly, was vomiting constantly, had a continuous fever lasting three months. There was no gastric lesion, the patient had a septic endocarditis which was established by examination of the heart and her blood. Because of the marked gastric symptoms, no attention had been paid to either her heart or the condition of the blood.

It is doubtless the prevalence of incomplete physical examinations such as the above, which leads us often to unduly criticise our fellow practitioners. This paper is not meant for criticism. The author has made all the mistakes here cited. He tries not to make them a second time.

Notwithstanding the fact that some criticism is due for these various lapses, the family doctor is a conscientious, hard-working individual, who does much good in other ways than in the making of diagnoses and the actual treatment of disease. I would have the man who is fixed in his work, who has not been educated in the more accurate diagnostic methods, to continue all his homely methods and associate with him a young man who can do this routine work for him. I would urge on the young man to practice the principles used by his seniors, and at the same time to improve on the methods as he has learned to do at school.

LABORATORY EXAMINATIONS

It was not more than thirty years ago that the clinical laboratory was established. In 1881 the last edition of Austin Flint's classical work on the "Practice of Medicine" was published under his own revision. He laid little or no stress on laboratory methods. Small wonder that men educated before that time still practice medicine without the most valuable laboratory methods. Still less wonder that men graduated since then and yearly trained more and more accurately in these methods, when they return to their homes and become associated with their elders for a long time, look on the laboratory as a frill, and on the old methods as those to be followed; but just as surely as the examination of the urine by inspection has been superseded by the chemical and microscopic methods, so has the laboratory help now become a necessity in the final word in the diagnosis of certain conditions.

One word of appreciation of the absolute value of laboratory methods in diagnosis. Let us not forget that laboratory methods as a rule are helps, important helps, but can rarely be depended on alone in making a diagnosis. Recently a neighboring physician was so urgent in having a roentgen-ray examination done and a sputum examination made in a case of hemoptysis before he would give an opinion, that the patient became discouraged and left him. To be sure both sputum examination and roentgen ray are valuable helps, but the history of the case and the physical examination are just as valuable in such instances.

THE URINE

Occasional chemical and microscopical examination of the urine, even with those not keeping up to the first rank in other laboratory work, is usually done. I plead, however, for routine examination. The vast majority of routine examinations will yield only negative results, but those very negative results will have value in the negative sense. Many cases of true diabetes, of bladder and kidney involvement, and a few cases of true nephritis will be discovered which for a long while would have been unsuspected but for the routine examinations.

Comparatively speaking, the use of the phenolsulphonephthalein test has been found of the utmost value in detecting the degree of efficient functioning of the kidneys, not nephritis but kidney function. It is a test strikingly simple and should be used by the general practitioner.

THE BLOOD

The routine blood count will often make the deciding point as between pneumonia and typhoid fever. Pernicious anemia and leukemia are practically undiagnosable except by a full blood count. A synopsis of a case referred by Dr. Sturtevant a year or so ago will serve well to illustrate this point.

A lady, aged 55, had been complaining of numbness in her limbs and weakness for some time. A careful history was taken which did not point to the seat of the trouble. A careful physical examination showed nothing. The blood count, however, showed about 300,000 leukocytes with a large percentage of lymphocytes.

This case illustrates two facts: (1) That only a blood examination will make the diagnosis in certain cases, and (2) that a routine examination is desirable. Not a single symptom or physical sign pointed to the nature of the case except the blood count.

An early diagnosis of whooping cough can often be made by lymphocytosis present. Relapsing fever, malarial fever, filariasis, trypanosomiasis, are surely diagnosed by a blood smear. Syphilis, gonorrhea and other causative factors in chronic conditions can be made certain by various fixation tests.

A blood culture will show the type of certain infections. A careful study of the blood of one or more of our patients is a daily necessity if we are to keep abreast of the times and be sure that our diagnoses are accurate.

EXAMINATION OF SPUTUM

It is certainly a correct statement that the presence of tubercle bacilli in sputum marks a late stage of tuberculosis of the lungs. The corollary to this statement, a diagnosis must be made before tubercle bacilli are found, is equally true. However, there are an abundance of cases in which the discovery of tubercle bacilli in the sputum is the very first sign which clinches a doubtful diagnosis. The following notes in the history of a case will show the value of this procedure:

J. H. B., aged 70, Frankford Avenue, Dr. Neal. Dr. Neal saw him for many years. A man who has always been hypochondriacal. One month ago fever; since, chills every third day; temperature, 100 and 101, for two or three weeks. Nausea, vomiting, cough. Urine normal, frequent urination. Pain in chest. Sleeps well. Not eating well. Lost some weight. Complains of distress in abdomen. Bad taste in mouth. Pain in shoulder. Original weight 215. Reflexes normal. Heart weak, no murmur. There is some distress in the region of the gallbladder, but no mass can be felt. Careful physical examination of the lungs failed to make a certain diagnosis. There is a dull note at right base posteriorly, but this does not seem to be due to underlying disease. Has a right inguinal hernia.

The history and physical examination in this case were entirely insufficient on which to base a positive diagnosis. The examination of the sputum showing the presence of tubercle bacilli at once marked the seriousness of the case. Nor is the finding of tubercle bacilli the only valuable point in sputum examinations. Rare infections, such as the mycoses, can be early distinguished in no other way.

Because of the positive value of tubercle bacilli found in the sputum, it is frequently considered that a sputum negative for tubercle bacilli means no tuberculosis. This of course is a great error. While a repeated negative finding in sputum may give us hope that the case is not one of tuberculosis, one must not use this laboratory finding as a sign which positively means no tuberculosis.

ROENTGEN-RAY EXAMINATIONS

In disease and injury of the bones, I take it the roentgen-ray examination is the one most valuable adjunct in the diagnosis and treatment of the condition present. While outside of truly internal medicine the following case will show the great value of this procedure in a case of disease of the head of the tibia:

Mr. P., druggist, Dec. 29, 1913. Has been developing a tender spot on outside of upper third of tibia; began Dec. 24, 1913. Has been getting gradually worse, until at present it is quite swollen and painful. A mass size of egg felt on inner edge of tibia, which fluctuates to a slight extent, extremely tender. No sore foot, no enlarged glands, no fever; otherwise, well. Appetite good. Lost 8 pounds in two months. Has had infection of right thumb. Had bandage off two weeks. Physical examination is negative except possible enlargement of liver. Roentgen ray negative.

Since the first note, the following circumstances have occurred: Pain and tenderness along left tibia for one week with slight temperature, 99, occasionally normal. In one week pain all gone from leg. Note of disappearance of mass and tenderness. Walked one mile without difficulty. In two days more fever, pain, tenderness at insertion of both trapezii. No leukocytosis, no urinary abnormality. Nothing wrong with eye grounds. Suddenly, one week ago, pain, tenderness, swelling in the original spot over the tibia. Findings, leukocytes, 20,000. Opened leg yesterday, osteomyelitis of tibia, involving whole upper half of bone.

This case shows also the danger in accepting the interpretation of a plate from anyone except an expert. The picture taken one month before the case became septic was declared to show a normal bone. Examination of the plate afterward showed a distinct lesion at the seat found later.

Diagnoses of diseases of the lungs, of the blood vessels, and of the abdominal organs, are frequently confirmed, sometimes actually made by the skilful use of the roentgen ray.

In the diagnosis of peptic ulcer the writer believes that it is of the utmost importance to know as nearly as may be the conditions present in the abdominal cavity before an exploration is made to that end. After taking the history, making the usual blood, urine and stomach content examinations, he invariably has a thorough roentgen-ray examination made by an expert, if one can be procured.

Gallbladder disease, peptic ulcer, pancreatitis and appendicitis, particularly chronic appendicitis, so closely resemble each other that in certain cases a roentgen ray is the only method except the operation, which will lead to a diagnosis. The following, out of many histories, will show its value:

Dr. William H., physician, tired from overwork, in March, 1916, went to California on a visit. Had no indigestion when he left. Appetite rather bad. When in Los Angeles he had pain exactly below and to left of xiphoid; this occurred in evening at 10 p. m., about four hours after eating. Some nausea and water brash. Excessive flow of saliva. Took no medicine or food. In morning it was better. Next day at 11 a. m. pain severe and general; this disappeared after lunch at 1 p. m. This has been repeated every day since. No appetite. Had the attack this a. m.; feels perfectly well at present. Occasionally he has the nausea at 6 p. m.; outside this he is well execept between 11 a. m. and 1 p. m. when he has the pain. Bowels are loose now from 20 gm. of magnesia and bismuth. Lost almost 10 pounds. Has been eating but little, but has been working, taking milk and eggs; 1 quart milk a day and six eggs. Drinks much water. The pain according to examination begins in epigastrium just to left of midline, at the junction of the cartilages and ribs. The pain immediately relieved by eating.

General inspection: Well nourished, no appearance of disease. Head normal. Neck normal. Abdomen normal appearance. Extremities normal. No enlarged glands. Nose and ears normal. Some pyorrhea. Lungs perfectly normal. Heart normal size, normal vessels. No murmur in heart. Abdominal cavity scaphoid. Stomach normal shape and size. No tenderness. Spleen not felt. Liver normal.

Urine: Straw-colored, clear, 1.033, acid, albumin negative; sugar, slight trace; acetone, negative.

Given bismuth and magnesia. Has eggs, meat, milk, toast, small amount of cereal.

Roentgen-ray summary: Stomach (1) probable carcinoma of the pyloric portion but not involving the pylorus; (2) possible old ulcer with dense adhesions to the ulcer; (3) possible luetic lesion but Wassermann awaited. Stomach much contracted. Duodenum, uncertain. Colon, diagnosis uncertain beyond some stasis. (After Wassermann has been obtained and if it is negative, operation would seem to be indicated by the roentgen-ray examination.)

The picture was an exquisite one of so-called water-bottle stomach. An operation was done, a carcinoma was discovered. Here we were able to foretell in a certain manner what would be found. In a case such as in the following notes, the value is still more marked:

Mr. F. S., aged 42, in 1900 had an attack characterized by indigestion for several months; then appearance of daily attacks of vomiting, occurring three hours after eating, preceded by a gnawing pain, the latter beginning two or three hours after eating; one-half to one hour after eating, vomiting which would give relief. At first vomitus consisted of food and later of bitter yellowish material; at times as much as a quart. Some months later went to an internist and was cured. Attacks ceased in two or three weeks. Attacks were said to be due to food taken. The very beginning of these attacks occurred in 1910 when patient had a nervous breakdown, but it was attended and preceded by vomiting and pain. Thinks he has never felt quite as well between attacks. Thinks he has had indigestion. Has to be careful about diet, eating and drinking. Thinks he sleeps better if he takes whisky before going to bed. Bowels constipated.

Was well for one year. At end of year there was recurrence, less severe (exactly same character). Each year since a similar attack, ending after care with diet in two or three weeks. No tenderness in stomach during these attacks. Three weeks ago patient had a similar attack. This time he tried same diet. For five days not so much distress and vomiting. During these attacks he gets nervous, loses weight. This time he thinks he vomited very slight traces of blood.

Feb. 6, 1918: Inflation of stomach shows position as before. No mass palpable.

Summary of roentgen-ray findings: Stomach, marked ptosis with very marked retention; atony. Duodenum, probable duodenal ulcer but gallbladder adhesions are possible. Colon, marked ptosis entire colon and cecum. Very marked colonic stasis mainly in ptosed atonic transverse colon.

March 24, 1918: Dr. Deaver operated Feb. 2, 1918. A duodenal ulcer observed, many adhesions about seat of ulcer. A short loop over duodenum. Gastrojejunostomy done. Patient recovered, no bad results.

March 25, 1918: He left hospital in two weeks. Has walked a mile or two. Attended to some business. Sleeps six or seven hours a day. No indigestion. Practically no pain. Bowels acting well. Gradual gain in strength. Weight today, 143.

June 7, 1918: Comes today, has had an uninterrupted recovery. No pain. Some gaseous eructations, slight. Appetite good. Says he is better, much better. Weight today, 147. Looks the picture of health.

In the case of the physician mentioned under the heading of history taking, the value of the history is shown; the history of Dr. H., its lack of value in certain instances.

The value of the roentgen ray in the diagnosis of tuberculosis is of value. It, however, consists in my opinion more in a confirmation of physical signs. It is especially of value in late stages of tuberculosis, where there is formation of fibroid tissue. In the early stages, there are symptoms and physical signs, or if there are no symptoms, the presence of peculiar marking is of the greatest confirmatory value.

In certain cases of empyema and of abscess of the lung, it is almost if not quite impossible to locate accurately the collection of pus by physical signs. It is here of the utmost importance to be able to locate the collection. A needle while useful, and if the pus can be reached, is absolute evidence of the situation of the pus, occasionally the pus is missed and cannot be reached easily. Here the location of the pus by means of the roentgen ray, will be of the utmost importance and value.

A roentgenological sign of perirenal abscess, which will soon be published, was recently demonstrated to the writer, and a diagnosis absolutely made by it by Dr. H. K. Pancoast of the University Hospital.

One word of caution. Laboratory methods to be of value must be exact. To have given to us the report that there is a Wassermann reaction in the blood or the spinal fluid, where none exists, is worse than to have no Wassermann made at all. Laboratory methods are exact methods, they can be done with certainty and must be done so, or they are valueless. Better depend on physical signs and history alone than to be misled by carelessly performed laboratory examinations.

These remarks are particularly applicable to the use of the roentgen ray in the diagnosis of visceral diseases. To tell the condition of the viscera by means of the roentgen ray means great expertness and much practice. The operator must have the findings on many of his plates confirmed by operation before his judgment is of great value. Many operations, when performed on roentgen-ray findings alone, are valueless. I have learned to depend on other methods than the roentgen ray, if I am not sure of the skill of the roentgen-ray operator.

Osler years ago stated in the first issue of *American Medicine* (quoted from Osler):

> "Just as the clinical laboratory is a necessity to the hospital physician engaged in the solution of the most advanced problems in medicine, so the private laboratory is indispensable in the everyday work of the busy practitioner. Urine analysis, blood counts, sputum examinations, chemical analysis of stomach contents, all these should be done at home; first by the physician himself, while not too busy, later by an assistant. This may seem to be asking a great deal in the heavy routine of the day, but it is not asking too much, and it will be done more and more when we send out our students familiar by long practice with the use of the microscope and other instruments of precision. It makes the practice of medicine of absorbing interest when one feels he is approaching the study of a case equipped with modern methods, and it is the neglect of these accessories that makes so many men fall into slip-shod habits of diagnosis, and still more careless methods of treatment. Asked the single most powerful weapon today in the hands of the profession against quackery of all sorts, I would answer: the little laboratory room attached to the office of the general practitioner. Nor is it asking the impossible. I know many busy men who utilize to the full all these resources of our art."

If all the teachers are correct as to the absolute necessity of methods here advocated, why is the use of these methods not more universal? Why do young men though well grounded in these methods, soon drop them from their ordinary practice? The answer is not far to seek. (1) The majority of patients whom we are called to treat have slight ailments, and will recover whether an accurate diagnosis is made or not; (2) the methods recommended are time-consuming and the general practitioner fails to take the time necessary; (3) the older methods of simply prescribing for symptoms, pleases the patient. Hundreds of thousands of patients treated in this way have recovered, and this leads the practitioner to take chances and to fail to use these scientific methods, until he is driven to do so by failure of the patient to recover.

My plea is for routine scientific diagnosis. Anyone can make a diagnosis of nephritis, if the patient has anasarca, much albumin in the urine and many tube casts. But the time to have made the diagnosis was long before all these diagnostic symptoms appeared. This could have been done by application of the principles of diagnosis here advocated. Is it practicable? Can it be done in every-day work? The answer is unquestionably, yes.

If the young doctor in his first year takes notes of his cases, examines them from head to foot; if he examines the urine, blood, stomach, stomach contents in a routine way; if he has roentgen-ray examination made where necessary, by the second year it will become second nature. He will continue to work in that way during his whole career. In order to do this he must carry with him in a convenient manner his instruments of precision. They are quite as useful as his medicine case. The older and busier physician can find men who will do this work for him; and there are laboratories about in all large cities — use them.

Great will be your interest in medicine, great will be your reward. You will have to call many fewer consultations.

421 Lyceum Avenue.

DISCUSSION

Dr. Henry Rhea Douglas, Harrisburg: Dr. Fussell has done much for years to keep before the minds of practitioners the importance of careful history taking, careful physical examination and routine laboratory examinations. In his teaching, writing and addresses before medical societies he has for years preached this, and not without results. Progress has been made in the rank and file of the medical profession as these methods have been applied in the diagnosis of our cases. Nevertheless, the want is still great for the more careful following of these methods in arriving at the correct understanding of our patients. A recent experience illustrating this need was that of a boy of 9 years of age who had been treated for years for a persistent eye condition accompanied by anemia and glandular enlargement, tubercular keratosis, and in whose case climatic treatment had been advised, as well as other treatment necessitating great energy, time and expense. He was finally brought to a surgeon for a swelling on the anterior surface of the tibia. A careful examination according to the principles emphasized by Dr. Fussell elicited the fact that the mother had had frequent miscarriages. The swelling on the front of the tibia suggested a gummatous growth and a Wassermann reaction was plus four. If the same amount of time were spent at the first of our examinations of patients much discomfort would be saved the patient. The economic handling of our patients is a very important factor and it is used to the advantage of the patient when these principles are observed in the first part of our treatment.

Dr. H. W. Mitchell, Warren: In the work of the hospitals for the insane, laboratory examinations are becoming more and more necessary for the correct diagnosis of many neurologic and mental cases. In the last ten years our knowledge concerning syphilis and methods of diagnosis has grown so rapidly that examinations of blood and cerebrospinal fluid must be applied in routine work to assure correct diagnoses. The study of the cerebrospinal fluid can alone make possible the differentiation between syphilitic and nonsyphilitic cases. Many of the former are amenable to treatment in the early stages of the disease before parenchymatous damage has resulted. Vascular and meningeal syphilis is detected by spinal fluid examination and often can be differentiated from parenchymatous or paretic type of neurosyphilis. Such studies are needed in 15 to 20 per cent. of the admissions to a hospital for the insane. Unfortunately, this method of diagnosis is not followed generally and it may be considered as belonging possibly to special practice. Application of the tests might possibly be well illustrated by a patient who came to our hospital last week. He was 62 years of age, gave a history of failing mentality for some months, and in the meantime he had been to several physicians in the immediate vicinity and had seen consultants in one of the neighboring large cities. No definite advice had been given as to the character of his trouble and he was brought to the hospital. Blood Wassermann test was negative, but in keeping with our custom in all doubtful neurological conditions, a spinal puncture was made; the test showed a positive Wassermann and Gold Sol with the so-called paretic curve, which coupled with the clinical symptoms unquestionably confirmed the diagnosis of paresis. This simple laboratory study practically settles all doubt as to the diagnosis in a large group of patients admitted to the hospitals for the insane and furnishes merely one of the indications for the necessity of routine laboratory work in hospitals for the insane.

Dr. Paul G. Weston, Warren. I would like to emphasize what Dr. Mitchell has said and enter a plea for the more frequent use of lumbar puncture for diagnostic purposes. Punctures are not made often enough. It seems that many physicians are a little afraid to make a puncture. Perhaps they are not to blame for that because great numbers of them believed and still believe what the professor of surgery told them. I recall that, when I was a student, a lumbar puncture was looked on as somewhat of a major surgical procedure. We had two whole hours devoted to the demonstration of making lumbar puncture. It was impressed on us that performing a spinal puncture was a mighty undertaking. There was only one spinal needle in the hospital and that was carefully locked up and kept for the use of the professor only. If the able assistant wanted to use it, he had to obtain permission from the professor. I hope medical colleges have improved since that time. With such teaching as I have mentioned, it is not any great surprise that men in general practice make few lumbar punctures. The technic is simple and does not require any special skill.

One of the things which Dr. Fussell did not mention (and no one would expect him to mention everything), is the chemical examination of the blood. Deductions from urinalysis are often at fault. Urinalysis should be accompanied by blood analysis. I think it is of far more importance to know what is accumulating and to what extent in the blood than to know what is or is not being excreted by the kidneys. An earlier diagnosis and a better prognosis can be made in cases of nephritis by blood examination than by examining the urine. That also applies to diabetes. The chemical analysis of blood for such constituents as uric acid, urea, creatinin, sugar, chlorids, etc., is not extremely difficult. When the physician cannot make such analyses, let him send the blood to the hospital laboratory and have the analysis made there, or let his assistant do it. I feel that a routine blood analysis should be made on every new patient and that the physician who does not himself make or have made a routine chemical analysis of his patient's blood is not giving his patient the benefit of modern methods.

Dr. Charles Rea, York: We should bear in mind the relative unimportance of negative findings. If we find a positive reaction, presumably the element in question is present; but, failing to get that reaction is no proof that the element in question is not present. Likewise, in Wassermann work, a negative finding does not necessarily mean anything unless the test is made several times and the spinal fluid is also negative. Because the roentgen-ray plate does not show gallstones does not mean that they are not present. I repeat that too much stress is laid on negative findings which are, relatively speaking, unimportant. I disagree somewhat with the last speaker, my experience being that the general practitioner of large practice does not have the time to make accurate examinations for urea and blood sugar, unless other phases of the examination, which perhaps are more important, are neglected. I do not think that it is practical, as it is also not practical for the general practitioner to do his Wassermann work. It is practical, however, for every man with a large practice to have a good assistant who has been trained to do the work and perhaps far better than the recent graduate can or will do it.

THE ORGANIZATION AND METHODS OF CONTAGIOUS DISEASE SERVICES *

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In the spring of 1918, at the suggestion of Dr. W. J. Mayo, I undertook in behalf of the Mayo Clinic a study of the principles underlying the organization and management of services and hospitals for the care of contagious disease, preparatory to the organization of such a service at the clinic. As a part of this study, a tour of inspection was made of a number of the notable Eastern hospitals for the care of contagious diseases. On the conclusion of the investigation the material obtained was presented before the staff of the Mayo Clinic as a report with recommendations. Subsequently at the request of the Harrisburg Chamber of Commerce and the Dauphin County Medical Society the same material was reviewed as the basis of recommendations and suggestions made to the authorities of the city of Harrisburg with reference to the contemplated construction of a contagious disease hospital. While a certain amount of my own experience is embodied in the recommendations, the heads of the large services for the management of contagious disease, shared with me in most generous fashion their experience and judgment. It is to the stimulating and valuable comment and suggestion and the experience of Dr. D. L. Richardson of the Providence City Hospital, of Dr. R. J. Wilson, chief of the Division of Contagious Disease in the New York City Board of Health; Dr. S. S. Woody of the Philadelphia Municipal Contagious Disease Hospital; Dr. D. M. Cowie of Ann Arbor, Dr. Owen J. Mink of the Great Lakes Naval Training Station, and their associates, that this report owes much the larger part of what value it may possess as a summary of methods and ideals in contagious disease practice.

The acute infection problem is one of the most pressing issues in the medical practice of today. The mobilization of great armies, the concentration of human beings in vast numbers into small spaces, and a devastating epidemic of acute infection in the form of so-called influenza and its complications have brought the problem home to the public with extraordinary force and directness. If professional knowledge is quick to take advantage of an aroused public interest, a new cooperation between physician and layman will bring about advances comparable to those which war has stimulated in other fields of medical practice.

A hospital for contagious diseases is, like the police, a necessary, though not an unmixed, evil. The principal justification for its existence is the convenience and safety of the well public. The comfort, the convenience, and the skilled treatment of the patient are a second, but by no means a negligible, consideration. In so far as the patient is concerned, such comfort, convenience, and skilled treatment as the hospital provides are scarcely enough to offset the menace of enforced contact with contagious diseases other than the one he has acquired. In so far as the hospital staff is concerned, increased risk can only be compensated for by the provision of every safeguard in personnel and construction, and by increased compensation commensurate with the unavoidable minimum of risk. Any community, and any institution public or private which, for its own protection, undertakes the organization of a hospital for contagious disease assumes a grave responsibility. Well built and managed, such a hospital is an asset. It provides for those of average means, the highest type of expert service. Skimped, crowded, cheaply and unintelligently constructed and poorly managed, it becomes a grave public and private danger.

The practical details of all organized care of contagious diseases center around seven principles. These include:

1. *Risk in Contagious Disease Practice.*—All contagious disease practice involves risk, greater than that which occurs in the ordinary practice of medicine and nursing, and greater where the work is concentrated in one place, as in a contagious hospital, than when it is distributed as in ordinary house isolation. The element of risk involves patient and attendant alike. As Dr. Woody has put it, a child, placed

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* Presented before the joint meeting of the Dauphin County Medical Society and the Harrisburg Chamber of Commerce, Harrisburg, Jan. 21, 1919.

on a ward with forty other children who have contagious diseases, is subject to 200 times the risk of acquiring one of the five contagious diseases than if he were kept isolated at home. This risk is accentuated by the lowering of resistance incident to the infection from which he is suffering. Cross infection is the bugbear of contagious hospital work, and it can become so common in a poorly managed service that no person who can avoid hospitalization for a contagious disease will submit to it. The human element of risk to the staff and patients of a contagious hospital is summed up in the hack phrase that a chain is no stronger than its weakest link. The health, the efficiency, and the life of the members of a contagious hospital staff and of the patients are dependent on the conscience and the technical ability, not of the ablest, but of the weakest and least efficient member of the staff. The element of personal equation, so far as I can ascertain, can not be wholly done away with by any refinement of technic. It can be reduced to a minimum, (a) by construction which so far as possible makes blunders physically and mechanically impossible and which employs the natural agencies of sunlight and fresh air in every department, including living quarters, in the diminution of the risks; (b) by a military stringency of discipline involving the entire medical, nursing and nonprofessional staff; (c) by an exact habitual routine, and (d) by the employment throughout the staff of persons of a superior type of human intelligence, better paid, better cared for, better trained, and more permanent than the average.

2. *Isolation for Diagnosis and on Suspicion.*—Contagious disease is usually most dangerous just before and during its onset and in its earlier stages. The source of the danger is twofold: (1) There may be nothing to warn those who surround the victim-to-be of the actual situation and of the danger attendant on contact with him before his manifestations become so definite that warning is given. The carrier problem in such diseases as epidemic pneumonia, meningitis, diphtheria, and typhoid fever, is simply a special phase of this problem; (2) danger to public and patient alike arises from errors and from unavoidable delays in diagnosis even after the signs become apparent. Time for observation is an essential factor in the diagnosis of certain of the contagious infections, and yet the delay subjects others to exposure, except under conditions of isolation or quarantine. The diagnostic instinct does not exist which can cover with infallibility on sight all the variations in the clinical picture represented by toxic erythema, true scarlatina, and scarlatiniform rubella, or between variola, varioloid and varicella. Blunders due to haste and misinterpretation are inevitable unless special means are adopted for their prevention. The special means which modern contagious disease practice should adopt are summed up, apart from the employment of various procedures such as vaccination of contacts, in the conceptions of isolation on suspicion and isolation for diagnosis. Adequate equipment for handling contagious disease will give the diagnostician's desire for expectancy and observation as an aid to diagnosis, the respect which it deserves, and will, during such a period of observation, protect the patient and the public alike by complete individual isolation.

3. *Detention.*—A patient suffering with one contagious disease may, before his entry into hospital care, have been exposed to another contagious disease whose manifestations do not appear until the patient has been admitted. Such importation of infection must be prevented by a period of observation or detention of every patient on entering, which is sufficiently long to insure that no new infection will develop after he comes in contact with other patients. Such detention must, again, be specifically provided for in construction, equipment and technic.

4. *The Transmission of Contagious Disease.*—The organization and management and the construction of hospitals for the care of contagious disease must be governed by the principles underlying the transmission of the diseases with which they deal. In respect to these principles, anything but unanimity prevails. In general the less that is known about the etiology of a given infection, the more varied are the opinions regarding its mode of conveyance. Two distinctive points of view, however, are recognizable in contagious disease practice: (1) The "air borne" infection theory, and (2) the "contact" infection theory. The theory of air transmission, the older of the two, has in its simon-pure form led to the "pest-house" conception of the contagious hospital. It is this point of view, carried to an extreme no longer justified by modern knowledge, which has led to the building of contagious disease shacks in waste places, and which underlies the horror of contagious disease that is fundamental to the uncritical and ignorant mind. Such a miscon-

ception is quite capable, even though medically revised, of depreciating the price of real estate, and of leading to eccentricities of construction such as those of the isolation or reception units of many of the large municipal hospitals. While the conception of air transmission of contagious disease in its original extreme form has no place in modern practice, its revised interpretation is leading to an increasing emphasis on droplet infection in diseases accompanied by marked respiratory symptoms. For example, the use of the face mask has become a well-established feature of hospital technic, and the placing of screens between even healthy persons, as in the barracks of the Great Lakes Naval Training Station under the direction of Dr. Mink, are recognitions of the fact that under certain conditions infection may be air borne.

The theory of contact infection under the leadership of such men as Chapin and Richardson of Providence, has assumed a more and more prominent rôle in the current conceptions of infectious disease transmission. According to this theory the transmission of contagious disease is accomplished only through actual physical contact with the patient and with articles such as the bed, the sheet, the pillow, etc., which come most immediately in contact with his person. The air about the patient is considered to be clean and the risk of droplet infection is confined to those gross forms in which the patient coughs into another's face, etc. Under the contact theory of infection the problem of the care of contagious disease becomes a problem of the same order as that of keeping the operative field free from micro-organisms, or at least so nearly free that the patient's resistance can overcome the few invaders. Currents of air, their mere presence in the room or immediate locality, lose the significance attached to them in the old air transmission theory, and danger exists only on physical contact with the patient or with his immediate surroundings.

These two theories affect contagious disease practice in two very different ways. Under the old air transmission theory, the infected persons were bottled up as tightly as possible in a quarantined area, all healthy persons were warned to keep away and on the windward side, and the nurse was bottled up with the patient to fight out the question of her own infection on the basis of whatever resistance she might possess or acquire. Air transmission requires unit segregation; all cases of the same type are isolated *en bloc* as far as practicable, in a separate building and locality.

The contact infection theory, on the other hand, greatly simplifies certain phases of the work, while rendering others more complex. According to this theory it is a matter of no consequence whether two patients with different diseases are in the same room or not, provided they and their immediate surroundings do not come in contact with each other, and provided no carrier takes the infection from one to the other. The prevention of the transmission of infection by carrier, becomes the crucial point of hospital management under the contact theory, and the main effort centers about the technical details of so-called aseptic nursing. On a pure contact transmission technic it is permissible, as in the Hospital for Sick Children in Paris, or in one of the Providence City Hospital pavilions, to mingle on the same floor or ward, cases of every type, provided the beds are sufficiently far apart to prevent physical contact, and the nursing and medical staff sufficiently highly trained completely to remove all traces of one infection from their persons before leaving one patient to go to another.

The strict contact infection theory, with its aseptic nursing technic has admittedly failed fully to justify itself in the care of measles and chickenpox, both of which infections seem to be of so elusive and so "catching" a nature as to make air transmission seem almost plausible. Smallpox is still regarded, by Eastern men especially, with a peculiar dread and its rigorous isolation is enforced. Scarlet fever and diphtheria, on the other hand, seem to be entirely amenable to a contact infection technic, and crosses with either of these diseases seem easily traceable to errors in technic. In both of these diseases it should not be forgotten that there is a large native immunity factor which probably is instrumental in explaining the success of the aseptic technic. In diseases in which respiratory symptoms are conspicuous it seems likely that droplet infection should be prominent. Yet in the case of diphtheria there seems to be little evidence of such a mode of transmission, while in epidemic pneumonia recent army work suggests its very great importance. Where so many moot questions still exist, it would seem obvious that the safe and conservative practice will neither be that of air transmission, with its farcical overdoing of precaution, nor that of contact infection, with its reliance purely on technical methods and the conscience and expertness of the attendant. It will be intermediate between the two, and while insisting on the rigorous execution of every aseptic precaution in contact with patients, will none the less interpose every available physical barrier against infection, and utilize every element which can be made to increase individual resistance, and employ the natural agencies of fresh air and sunlight in the destruction of the infecting agent and the diminution of the risks.

5. *Fool-Proofing of Hospitals and Technic; Minimizing the Personal Equation.*—Contagious disease practice and contagious disease hospitals should be, so far as possible, fool-proof. The necessity is as obvious as it would be in a plant for the manufacture and handling of high explosives. Fool-proofing contagious disease hospitals and practice means essentially the reduction of personal equation to the lowest possible terms. This demands rules, of course, and their observance; but it demands more, namely, the substitution of a physical barrier against a blunder in preference to a verbal injunction, wherever possible. The adequate carrying out of such a principle calls for ingenuity and sometimes for extra expenditure in construction, all of which amply repays its cost.

Such risk as cannot be done away with by the physical fool-proofing of structure and equipment, must be met, as has been mentioned, by the systematic and constant elimination of incompetent and inept persons from the personnel, and by the maintenance of a discipline which is inexorable in its requirements.

6. *Modern Disinfecting Methods: Soap, Water, Sunlight, Fresh Air, Steam.*—The older contagious disease practice depends for the destruction of the infecting agent on chemical disinfection. Modern contagious disease practice depends on mechanical and biologic means of destroying the virus and of preventing its passage from the sick to the well. The keystones of the prevention of the present day in this field are soap, water, sunlight, fresh air and steam. The modern contagious disease hospital consists, figuratively speaking, of plumbing and glass. This in part accounts for the relatively high cost of construction of worth-while contagious hospitals. Yet this consideration should not be allowed for a moment to subordinate the principle to a short-sighted niggardliness. More than one otherwise admirably constructed hospital has suffered a loss of flexibility and efficiency through unwise economy in these fundamentals. Slit-like windows, resembling the ports for archery fire in the walls of ancient castles, inaccessible bathrooms, one to a floor, and rooms without running water are alike anachronisms.

7. *Fluctuating Load.*—Hospitals for the care of contagious disease must be constructed so that they may care for wide variations in the number of cases and the types of disease received. Seasonal variations are marked. In summer a contagious disease hospital, if built apart from a general hospital, must remain largely idle. If poorly constructed it cannot be used for any other purpose. One year an epidemic may make the ratio of measles to scarlet fever ten to one, and throw a ward or building isolation system hopelessly out of commission, while other exanthemas may cut a negligible figure. The next year measles may be almost unknown and seven other contagious diseases in about equal strength may tax the facilities for isolation. In a third year, a single disease may be pandemic, the hospital may be filled to the doors and prove utterly inadequate to meet the situation. A hospital for contagious disease should be built to something above the average peak-load in ordinary years, and with every possible provision for the highest degree of flexibility in the number of diseases for which it can care.

APPLICATION OF THE FOREGOING PRINCIPLES TO THE ORGANIZATION AND MANAGEMENT OF A SERVICE

Staff Personnel and Discipline.—In aseptic nursing technic the element of personal equation is paramount. Under such technic a careless nurse or doctor rapidly accumulates to his credit a list of cross infections which discredits the whole method.[1] Therefore, wherever the asceptic technic in particular is to be employed a rigorous selection of employees must be practiced. This technic is the only one applicable to the small contagious hospital.

The responsibility for the technical excellence of a service rests in the last analysis on the director; this responsibility cannot be divided. Just as under military conditions and under the dangers of war, discipline places the situation completely in the control of the commanding officer at a given point. So in dealing with the dangers of contagious diseases similar powers must be vested in the executive head of a service. The power to employ and discharge and to approve and disapprove must be completely in his hands. So long as the director's accomplishments and results justify him, he must be a military chief and have summary authority in matters of method and administration over his confrères by common consent, and over nurses, orderlies, attendants, patients and their friends and relatives. The selection of supervisors to carry out his methods must be made with his approval and he must have power to remove them without appeal. In theory, at least, the way to appeal from the judgment of the medical director of a service for contagious diseases is to accept his resignation. As in the presence of danger in battle, the stringency of military discipline is increased, so in the presence of the very real danger of contagious disease, discipline must have a severity not demanded in the ordinary hospital service, and comparable in medical practice to the completeness with which the surgeon dominates his operating room.

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[1] Cowie, D. M.: The Aseptic Technic Method in the Management of a Contagious Hospital. Jour. Mich. Med. Soc., 1916, xv, 240–248.

The director of a service for contagious diseases must be a man qualified to meet the exactions of the task. There is probably no single type of medical duty which carries with it more petty vexations than this. In addition to a native tactfulness the director must be a man with the necessary driving force to hold others to the demands of their tasks and with the necessary energy to be constantly on the *qui vive*. He must be able to meet the situation in which an inferior reports a superior for breach of technic as skilfully and yet as energetically as he would the reverse. He must be a detail man, able to carry at his fingers' ends all the intricacies of an elaborate technic. He must make a special study of methods and keep up to date in them. He can never shrink from the disagreeable task of placing responsibility on the person on whom it should rest. There is probably no type of service from which more complaints inevitably arise and which can arouse a storm of criticism and protest in a shorter time than can a service for contagious diseases. It is absolutely no place for an easygoing fellow. It was a matter of the greatest interest to me to recognize in the chiefs of the really famous contagious services of the East, a masterful type of personality.

It is widely recognized as a physical and mental impossibility for certain types of nurses and certain doctors to observe the requirements of aseptic technic, just as certain persons are fundamentally unfit to be surgeons. They do not have the instinct for the work. For that reason all persons on the staff of an isolation hospital, from the orderlies and scrubmaids to the director, should enter on a probationary understanding. If they prove unteachable, technically inefficient or mentally unfitted for the work, they should be removed from office promptly and without appeal. There can be no possible excuse for subjecting either patients or staff to the dangers arising from a weak link in the chain, from the moment its unfitness is discovered.

The hospital using aseptic methods should not, in general, admit outside physicians to practice within it, except under staff supervision, since they are too often notoriously unmanageable when it comes to technical exactions.

In order to secure a high grade of personal efficiency in a staff, three other elements besides native aptitude and special intelligence are necessary. These are, long service, good care, and good pay. Short-term rotating services have at best only a limited efficiency. If they must be compromised with, as in the case of the training of pupil nurses, the training period must be long enough not only to enable the pupils to learn the method, but also to be of some use after the method is learned. It is generally conceded that a six months period is the most desirable, but that compromise can be made down to the point of three months, and under exceptional conditions, to two months. By exceptional conditions are meant those provided by thoroughly modern hospital construction such as minimizes the risk of cross infection. Moreover, the contagious hospital which houses its staff in dingy and ill-ventilated or crowded quarters, feeds them poorly and overworks them invites disaster.

SPECIAL TECHNIC

To study the methods of a number of contagious services is the best way to appreciate the varieties of opinion and method which exist in this field. A service which is tinged with air transmission ideas will not permit a visitor more than to enter the building without putting on a gown and cap and perhaps a face mask, and will rigorously provide a building for each separate disease. On the other hand, a pure contact system will allow the visitor to walk about the ward of barriered beds at will, provided he does not touch the patient, bed or other surroundings. It will even permit active carriers to walk about clean corridors provided they keep their arms folded and touch nothing but the floor. At the present time, however, a compromise involving the best elements of both systems would include approximately the following points:

1. Attendants should change from street to short-sleeved duty uniform on entering the hospital and make a reverse change on leaving it.

2. The infection should be limited to the quarters containing the patient.

3. The aseptic character of all corridors and passageways should be rigorously maintained.

4. Areas and objects as follows should be regarded as invariably infected: (a) The floor; (b) the patient; (c) all parts of the patient's room within reaching distance of his bed and in fact, in many hospitals, the entire room as high as a person can reach; (d) everything with which the patient or the above-mentioned objects come in contact. This includes bedding, utensils, food, discharges from the patient, etc.

5. A special gown covering the entire costume should be worn by attendants while they are within the infected area.

6. This gown should be removed, properly handled and disposed of in accordance with an exact technic before the attendant enters a clean area.

7. A cap covering the hair should be worn.

8. A face mask should be worn by persons while on duty in an infected area, especially when attending certain types of cases.

9. All attendants should rigorously cleanse the hands and forearms with soap and brush and running water before they leave the infected area.

10. Any article which has touched one of the above mentioned infected objects should be immediately treated as infected.

11. Every infected object should be efficiently sterilized as follows: Dishes should be boiled, garbage burned, dressings and infectious discharges on rags, etc., burned. Gowns, linens and clothing should be sterilized either by immersion in sterilizing solution followed by steam laundering, or by steam sterilization with or without subsequent laundering. The body should be cleansed by washing with soap and water; little reliance is placed on disinfectants. When the patient is discharged mattresses and unwashable clothing and bedding should be sterilized by steam or formaldehyd in special steam sterilizers or rooms and subsequently exposed to air and sunlight. The bed should be washed with lysol and water, and exposed to air and sunlight. The room should be scrubbed (the floors and the walls as high as can be reached) with soap and hot water. Radiators, chairs, tables, doors, door frames, door knobs, etc., should be included in this scrubbing. Fresh air and sunlight should be used in every possible way for the control of infection.

12. The patient should be discharged in such a way as will prevent his infecting the corridors through which he is taken, or his carrying infectious material to the outside.

13. Every patient should be treated individually in a single room rather than collectively on wards.

14. Rooms containing a single type of disease should be grouped in one unit, under a single nurse or a group of nurses who do not care for any other type of disease, even though using an aseptic technic.

15. The privileges of visitors should be restricted.

16. Where patients are kept together on wards, even with the same diseases, the beds should be separated by sheet curtains or glass cubicle partitions.

17. Crowding either by having too many patients to the room or unit, or too many patients for each nurse should be absolutely prohibited. Crowding spells the complete breakdown of any system of contagious technic and consequent cross infection.

18. Every entering patient should be detained in "solitary" until the longest period of incubation of a contagious disease is passed (three weeks) before he is placed on any ward or in contact with any other person. This is to prevent entry crosses from patients incubating one disease while entering with another.

19. Cultures from the nose and throat should be obtained from all persons entering the hospital as patients or staff, for the detection of carriers; the culture should be repeated on discharge.

20. All female infants should be examined for vaginitis (vaginal smear) and the invariable rule made never to place two female infants in the same room or to allow diapers, etc., to be washed by floor nurses.

SPECIAL CONSTRUCTION DEMANDED BY MODERN TECHNIC

In the carrying out of the principles herein described, certain special requirements in the construction of a contagious disease hospital must be met. As in the development of technical methods, so in hospital construction, a compromise between extreme views must be sought. Where only average grades of medical and nursing help, for example, are to be obtained, it is unwise to construct a hospital relying solely on the preservation of medical asepsis to reduce the dangers of handling these diseases. On the other hand, where nurses are to be taught a modern technic a hospital cannot be built exclusively on a unit segregation plan, with one disease in each building, since, in this type of construction, technic easily becomes slipshod and untrustworthy.

The ideals already outlined are to be attained by attention to the following details:

1. By the erection of a hospital or of hospital units of wieldy size, consisting practically entirely of single rooms.

2. By the minimal transfer of patients through corridors, etc. This may be secured by (a) the outside entry to rooms through an open porch and (b) one-story construction so far as the part devoted to patients is concerned.

3. By the "elastic unit" type of planning, which makes it possible to divide a hospital into four, six, or even more units, each composed of two or more single rooms, and so arranged that a given nurse can be limited to the care of a single disease, instead of

caring for one patient with one disease and another patient with a different disease.

4. By the provision of abundant porch space, so developed as to be usable as much of the year as possible.

5. By the use of many large windows, glassed doors, etc., to admit a maximum amount of sunlight and fresh air to the body of the hospital. Too much of the walls of contagious hospitals in the past has been built of brick, and too little of glass.

6. By a very liberal provision of plumbing fixtures and bathing equipment. This should be so arranged as to provide at least one-third of the rooms with individual plumbing facilities, and to give each room access to a tub within the unit of which it forms a part with a minimum of hall traverse to reach it.

7. By the provision of running hot and cold water in each room for proper disinfection of the attendant. This supply must be available without the use of the hands.

8. By the provision of dry high pressure steam for all types of sterilization, except unwashable clothing.

9. By provision of large diet kitchens, linen and utility rooms, arranged in groups on the basis of the unit organization of the hospital, and providing for not less than three diet-utility groups for twenty-five beds. Unwise economy in space devoted to these features is sure to be regretted.

10. By provision for the proper preparation under supervision of entering doctors and nurses and their proper cleansing before exit from the hospital. This requires in general a room for the removal of infected clothing, a bath and a clean room or its equivalent.

11. Similar provision must be made for the discharge of patients.

12. The room unit must be constructed of such materials and in such a way, that it can be cleansed with soap and water throughout. This means (a) there must be no unwashable or inaccessible fixtures; (b) there must be no avoidable cracks, corners or niches in floors, walls or door and window casings, to serve as places of accumulation for infectious material; (c) it must also be so large that it is possible to move about in it with ease and without involuntary contact with any part of the equipment; (d) it must never be crowded to the point where this is made difficult; (e) it must contain a minimal amount of furniture; (f) it must have a door opening to the outside (porch) and needless entering of the room by the inner door must be done away with by the provision of special windows for observation of the patient, etc.

13. So far as possible the construction of the hospital should be such that it is impossible for a technical error to be committed without its being observed.

14. By the skilful use of partitions, swinging doors, elbow-catches, signs, etc., it should be made difficult to forget that one is in a contagious hospital, and the temptation to commit technical lapses should be minimized by making the improper action or movement, as nearly as can be, physically impossible.

15. The majority of contagious hospitals treat the dead body as infectious, and provide for the postmortem examination on the premises, and for the embalming and funeral ceremony in a specially devised morgue from which the body may be viewed by the relatives, and then taken away in a sealed casket. There can be no question that such provision is of a sentimental value and mitigates the distressing features of the care of this type of case, without injury to the public.

16. Whenever possible, the contagious hospital should take account of the human factor in illness and should make provision for relieving the anxiety of relatives by permitting visits under proper control, and providing even for the attendance at the bedside of the dying. Attention to certain details and devices of construction can assist in this effort.

The discussion of the problem presented by the city of Harrisburg, in which discussion Dr. Woody of Philadelphia participated, brought out several interesting practical details. A contagious disease hospital is primarily a city problem rather than a country or county one. The service of a contagious hospital to a large and rather thinly populated county is a matter of uncertainty. On the other hand, it was pointed out that the modern automobile ambulance has greatly extended the ability of the hospital to meet the needs of the acute case within a radius of from four to ten miles. The ambulance as an extension of the contagious hospital, or indeed of any hospital, has an effectiveness dependent to some extent on the professional skill, judgment, and equipment of the ambulance personnel. A blundering, inexperienced ambulance staff can, by omission or commission, be responsible for errors which no hospital, however complete, can ever remedy. While such a statement is most directly applicable to emergency and accident service, it must be considered in planning the extramural activities of a contagious hospital service.

Modern conceptions of the transmission and control of contagious disease are doing away with building isolation, and the dissociation of contagious disease practice from the work of the general hospital which has prevailed in the past. The writer agreed with Dr. Woody, in urging on the authorities of the city of Harrisburg that they consider their contagious hospital not as a thing to be built apart, but as a part of a large general hospital. The contagious hospital itself should be constructed in building units comprising twenty to twenty-five single rooms with their diet, utility and administrative equipment, the units being reduplicable as expansion is indicated. There seems no reason why this feature of hospital construction, so well worked out in army practice, should not be applied to contagious hospital construction. There seems, moreover, to be no reason why at periods when the properly constructed contagious units of a general hospital are not in use for contagious disease, thorough cleansing, with a liberal use of paint, should not make a portion of the equipment available for general purposes. This possibility of "taking up the slack" in contagious hospital work by association with general hospitals and using it for other than contagious diseases, will make practicable refinements in construction which it has been difficult in the past to get hospital authorities and public officials to consider on the ground that the variations in the usefulness of contagious hospital equipment were so great as to prohibit expensive construction.

The cost of contagious hospital construction will of course vary with the factors which determine building costs in general, including the site, current costs of material, labor, etc. Material economies in the construction of smaller contagious units can be effected by the utilization of the heating plant, laundries and kitchens of a general hospital. Other economies can be brought about by an intense but discriminating attention to details. For example, a contractor pointed out to me a certain type of matched brick-work on an otherwise well-planned hospital, which without adding materially to its appearance or usefulness had raised the cost about $100 per bed. Dr. Woody and I concurred in estimating the cost of the ideal contagious hospital of the present day at not less than $2,000 and probably more nearly $3,000 per bed. During the period of war inflation of the cost of material and labor, the cost as determined for the proposed Mayo Clinic Contagious Hospital would hardly have been less than $3,500 per bed.

SENATE BILL NO. 446 *

FRANK WOODBURY, M.D.
Secretary to the Committee on Lunacy of the State of Pennsylvania
PHILADELPHIA

Gentlemen:—In 1877, the assembly passed an Act to protect the people of this commonwealth against incompetent practitioners of medicine, surgery and obstetrics, which was approved by the governor on March 24, 1877 (P. L. page 42). Subsequently an Act was passed "to provide for the registration of all practitioners of medicine and surgery, approved on June 8, 1881 (P. L. page 72). Also an Act was passed to establish a medical council and three state boards of medical examiners, to define the powers and duties of the medical council and said boards of medical examiners, to provide for the licensing of practitioners of medicine and surgery, to further regulate the practice of medicine and surgery, etc., approved May 18, 1893 (P. L. page 94). An Act to amend the fourth section of an Act entitled an Act to protect the people of this commonwealth against incompetent practitioners of medicine, surgery and obstetrics, was passed March 24, 1897 (P. L. 258). The same Act was repealed in 1911, when the present medical law was adopted (P. L. 639). The preamble of this Act declared that:

"The safety of the citizens of this commonwealth is endangered by incompetent physicians and surgeons, and a due regard for public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons shall be permitted to practice their profession."

This law defines the qualifications and attainments which the cadidates for the right to practice medicine and surgery must possess, and establishes a bureau for the express purpose of ascertaining, by examination and otherwise, the fitness of the applicant to be entrusted with the responsibilities attending the practice of medicine and surgery. In token that the successful candidate has successfully passed the examination test required by the Bureau of Medical Education and Licensure, he or she is given the license which the bureau is empowered by law to grant, and no one can legally practice medicine in Pennsylvania without possessing the license provided and required by the Act of 1911, relating to the right to practice medicine and surgery in the commonwealth of Pennsylvania.

The language of these several acts leaves no doubt as to their meaning. They define the practice of medicine and surgery and explicitly state the requirements of persons practicing medicine in this commonwealth, and provide penalties for those persons who practice medicine or surgery without complying with its conditions.

But it may be said that this law is not of universal application, because one of its provisions, in Section 13, expressly states that "this Act shall not apply either directly or indirectly, by intent or purpose, to affect the practice of pharmacy." By this section it is shown that the practice of pharmacy does not come within the scope of the act regulating the practice of medicine and the license to practice medicine or surgery is not necessary, where the practitioner restricts his work to pharmacy. If, however, he were to practice medicine in connection with the practice of pharmacy, he would come within the scope of the act regulating the practice of medicine. If this were not required then any one who wished to practice medicine without obeying the law governing admission to medical practice could do so by attending a college of pharmacy and being registered as a graduate pharmacist. In other words, the authority of the medical law would not extend over medical practitioners, who have knowledge of pharmacy, but who do not possess the amount of *medical* knowledge which the law says is necessary. This certainly is not the intention of the law, which means simply what it says when it provides that pharmacy is not the practice of medicine because if it were, it would necessarily come under the requirements of this act. It could not be exempted without nullifying the act, which declares that in order to practice medicine in this commonwealth certain things are necessary, one of which is a license from the Bureau of Medical Education and Licensure.

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* Remarks made before the Public Health Committee of the Senate, April 29, 1919.

It is also provided in Section 13, that this Act shall not affect the practice of dentistry, nor to affect the practice of osteopathy. The explanation is the same in each case. The practice of dentistry and the practice of (so-called) osteopathy are exempted because they are held to be as distinct from the practice of medicine as is the practice of pharmacy.

It is not clear what is to be understood by the word osteopathy. Everybody knows what pharmacy and dentistry are; but the definition and limitation of osteopathy are nowhere given in the laws relating to the establishment of a Board of Osteopathic Examiners (Act approved March 19, 1909). Whatever it may be it is outside of the jurisdiction of the Bureau of Medical Education and Licensure, and is not to be regarded as a method or school of medical practice, for then it would come within the provisions of the Medical Act of 1911 already quoted.

Therefore a person bearing a license from the State Board of Osteopathic Examiners may have the right to practice osteopathy, whatever that may be, in the commonwealth of Pennsylvania, but he has not the legal right to practice medicine until he further complies with the act regulating the practice of medicine and surgery.

Any act proposing to confer the right to practice medicine or surgery upon other persons than those who have complied with the provisions of the medical law would nullify that law by creating a favored group of medical practitioners who were above the law, which would be a very unwise piece of class legislation. Its effect would be to repeal the laws which have been enacted, and are now in operation for the protection of the citizens of this commonwealth from being preyed on by ignorant and incompetent practitioners of medicine, surgery and obstetrics.

In the Act of March 19, 1909, referring to the practice of osteopathy, it is expressly provided that nothing contained in this act shall be construed as affecting the so-called practice of medicine (Section 13, P. L., 1909, p. 53).

This question has been before the courts of several states and it has been held by the courts that the practice of osteopathy is not the practice of medicine. The only legal way for an osteopathic practitioner to become a practitioner of medicine or a medical doctor is for him to comply with the laws of the state, which regulate the right to practice medicine, surgery and midwifery. Otherwise, the bona fide holder of a license to practice osteopathy has the legal right to practice only osteopathy, only this and nothing more.

It does seem as if we had reached a stage in this discussion when we should have a clearer statement of the meaning of the terms we employ. It is evident that some more informing definition should be given of osteopathy, than that contained in the act above referred to, which provides that osteopathy is something which is "taught and practiced in the legally incorporated reputable colleges of osteopathy."

It might be a good idea to have a commission appointed which, after conferring with the medical Bureau of Medical Education and Licensure and the Osteopathic Board of Licensure, and consulting other authorities, would present a report to the next legislature declaring the respective rights of the two classes of licentiates and defining the proper bounds and limits of medical and osteopathic practice.

218 South Sixteenth Street.

HISTORY

Many component county medical societies have taken steps toward the compilation of the war history of their membership. Committees to carry on such efforts should be appointed in each component society. No doubt provision will be made at the 1919 session of our state society to concentrate the work of the county societies in one official effort to prepare and preserve in full detail the splendid service and limitless sacrifice of our members. The medical profession was the most essential and the most responsive group in America's warfare for democracy. Pennsylvania physicians led the larger states of the Union in the proportionate number of volunteers. Their results accomplished speak to this generation; but generations unborn must have such knowledge, and that is possible only by carefully prepared histories. Medical societies honor themselves in thus honoring those who served; and while history is not written in a day, the time is undoubtedly at hand to initiate this important work.

Elsewhere in this issue will be found a communication from the Pennsylvania War History Commission, in which their service is offered to historical committees.

DISTANCES AND MOTOR ROUTES TO HARRISBURG

Two hundred and fifty-eight miles Erie to Harrisburg via Franklin, Dubois, and Huntingdon.

One hundred and ninety-seven miles Pittsburgh to Harrisburg via Bedford, Chambersburg and Carlisle.

One hundred and fifty-seven miles Towanda to Harrisburg via Wilkes-Barre and Sunbury.

One hundred and twenty-seven miles Altoona to Harrisburg via Huntingdon and Newport.

One hundred and twenty-seven miles Delaware Water Gap to Harrisburg via Mauch Chunk and Pottsville.

One hundred and twenty-one miles Philadelphia to Harrisburg via Lancaster, York and Lewisberry.

One hundred and three miles Philadelphia to Harrisburg via Lancaster and Mount Joy.

Ninety-seven miles Williamsport to Harrisburg via Milton and Sunbury.

Fifty-five miles Reading to Harrisburg via the Horseshoe Pike.

Forty-seven miles Gettysburg to Harrisburg via Carlisle.

INCREASING THE STATE PER CAPITA ASSESSMENT

Trustee Frontz, in reporting a meeting of the sixth censorial district, states that a resolution was unanimously adopted endorsing the increase to $5 of the state society *per capita* assessment. The societies comprising this district are those of Huntingdon, Mifflin, Juniata and Perry Counties. This prompt approval of the recommendation of the Board of Trustees to the House of Delegates is especially interesting when we remember that these are agricultural and mountain counties, with a large preponderance of country practitioners.

PROGRAM FOR 1919 MEETING

Elsewhere in this issue will be found the program for the September Harrisburg session. Circumstances may necessitate a few changes, but they will be slight. Careful perusal of this program will reveal a well-balanced selection of diversified subjects, with considerably less of war-inspired offerings than in many similar plans. Medical men returned from service will enjoy this opportunity to take part in discussions pertaining to medical and surgical subjects as applied to civil practice, and we will all enjoy the opportunity to welcome to this state society meeting our hundreds of members who were absent in 1917 and 1918 on account of service to the nation.

Ample provision has been made for full discussion of preventive medicine and subjects relating to the preservation of public health. In fact, public welfare legislation, including health insurance, is to be the subject of two important sessions.

Those who attended the American Medical Association 1919 meeting at Atlantic City were loud in their praise of the value received from attendance on the Scientific Exhibit. This year our exhibit will be far in advance of that of last year, and we may all gain at first hand intimate acquaintance with the newest in the literature and the armamentarium of successful practice. Plan to attend Sept. 22 to 25, 1919.

CHANGES IN MEMBERSHIP IN COUNTY SOCIETIES

The following changes have been reported to July 23, 1919:

Allegheny: *New Members*—Howard S. Ballard, 304 Peoples Bank Bldg.; Ralph E. Case, 1122 S. Evans Ave.; Samuel Itschovitz, 123 Fifth Ave., McKeesport; William Blick, 37 Station St.; Lewis Glatzau, 162 Noble Ave.; John L. Smith, 11 Emily St.; Arthur F. Walsh, Linwood Ave. and Manor, Crafton; Albert J. Bruecken, 1201 Troy Hill Rd., N. S.; Joseph F. Calvert, 3047 Chartiers Ave.; Thomas Coleman, 2137 Center Ave.; Fred A. Davis, Highland Bldg.; T. D. Barton Johnson, Highland Bldg.; Henry D. Jordan, 216 Dinwiddie St.; Roscoe T. Kline, Children's Hosp.; William T. Mitchell, 410 S. Pacific Ave.; James I. Plyler, 7272 Bennett St.; Wayne S. Ramsey, Jenkins Arcade Bldg.; Clark Wakefield, 3421 Butler St.; John J. Weber, Carson St.; William H. Wymard, 721 N. Homewood Ave., Pittsburgh; Charles H. Clifford, 318 Eighth Ave., Braddock; Rudolph Hanover, 358 Munson Ave.; Harry J. Kerr, 708 Chartiers Ave., McKees Rocks; Samuel H. Keller, 760 Hill Ave., Wilkinsburg; Clarence L. Leydic, Tarentum; Delos H. Parke, McKean Bldg.; Frank J. Pessalano, 876 Fifth Ave., New Kensington (Westmoreland Co.); Henry Schlesinger, 400 S. Main St., Sharpsburg; C. J. Robinson, Harlan Plant, Bethlehem Shipbuilding Corp., Wilmington, Del.; Granville H. Walker, 532 Lincoln Ave., Bellevue; Louis Weiss, 215 Electric Ave., East Pittsburgh. *Removal*—William W. Jones from Pittsburgh to Lake Rd., North East (Erie Co.).

Armstrong: *New Member*—John C. Hunter, Apollo.

Bedford: *New Member*—Walter de la M. Hill, Everett.

Blair: *New Members*—Harry B. Cunningham, Juniata; William P. Harlos, 1428 Twelfth Ave., Altoona; William H. Morrow, Bellwood.

Cambria: *Removal*—Albert C. Stephens from Nanty Glo to Elmora.

Clearfield: *Transfer*—Bradley H. Hoke, Meyersdale, to Somerset County Society.

Cumberland: *New Member*—John F. Good, New Cumberland.

Dauphin: *New Members*—Martin L. Hershey, Hershey; Richard J. Miller, 234 State St.; J. Walter Park, 32 N. Second St.; Alfred L. Shearer, 804 N. Sixth St., Harrisburg. *Death*—George F. Mish (Univ. of Pennsylvania, '53) of Middletown, in Steelton, July 14, aged 92.

Huntingdon: *Death*—Charles Biddle Bush (Jefferson Med. Coll., '85) in Philadelphia, May 27, aged 58.

Lackawanna: *New Members*—Ernest W. Downton, Starrucca (Wayne Co.); Harry E. Jones, Dickson City; Samuel P. Longstreet, 316 N. Washington Ave., Scranton; Frank L. Murphy, Dunmore. *Death*—William E. Lloyd, Jr. (Baltimore Med. Coll., '94) in Forest City recently, aged 47.

Lawrence: *New Members*—Elizabeth M. McLaughry, Charles A. Reed, 26 N. Mercer St., New Castle.

Lehigh: *New Member*—Eugene M. Kistler, 313 N. Seventh St., Allentown.

Luzerne: *New Members*—Peter E. Fagan, Hazleton; Charles A. Long, Muhlenburg (R. D. 3, Hunlock Creek P. O.).

Lycoming: *New Member*—Dio M. Niple, Turbotville (Northumberland Co.). *Transfer*—Adelbert D. Dye, Elbon, to Elk County Society.

Montgomery: *Death*—Charles B. Hough (Jefferson Med. Coll., '78) in Ambler, July 2, aged 64, from heart disease.

Philadelphia: *Death*—Elizabeth R. Bundy (Woman's Med. Coll., '84) in Philadelphia, July 1, aged 70.

Schuylkill: *New Members*—Thomas D. Casey, Ashland; William H. Clewell, Coaldale; Aaron H. Detweiler, Thomas C. Rutter, Schuylkill Haven; John C. Gallagher, Shenandoah; Samuel E. Wertman, Mahanoy City.

Wayne: *New Member*—Edward B. Gavitte, New Bethlehem (Clarion Co.).

York: *Death*—Robert A. Hildebrand (Coll. of Phys. and Surg., Baltimore, '95) of Glen Rock, in York, July 5, aged 48, from nephritis.

PAYMENT OF PER CAPITA ASSESSMENT

The following payment of *per capita* assessment has been received since June 24, 1919. Figures in first column indicate county society numbers; figures in second column indicate state society numbers:

5/28	Allegheny,	976, 978, 988–999, 1004–1005, 1007, 1009, 1011, 1013, 1014, 1016–1017, 1019–1020, 1037–1039, 1042–1046	6330–6362	$90.75
	(These numbers were omitted from July Journal)			
6/25	Cumberland	36	6468	2.75
6/25	Blair	82	6469	2.75
6/27	Blair	83	6470	2.75
6/28	Bedford	20	6471	2.75
6/28	Allegheny	1049–1051, 1057–1058, 1060–1067	6472-6484	35.75
6/30	Lehigh	86	6485	2.75
6/30	Dauphin	128–129	6486–6487	5.50
6/30	Schuylkill	98	6488	2.75
7/ 3	Lawrence	49	6489	2.75
7/ 3	Schuylkill	99–101	6490–6492	8.25
7/ 3	Armstrong	59	6493	2.75
7/ 8	Dauphin	130	6494	2.75
7/ 8	Lackawanna	171–174	6495–6498	11.00
7/11	Luzerne	204–205	6499–6500	5.50
7/11	Allegheny,	1000–1003, 1006, 1008, 1010, 1012, 1015, 1021–1024, 1026–1036, 1040–1041, 1047–1048, 1054, 1056, 1059, 1074–1075	6501–6533	90.75
7/11	Schuylkill	102	6534	2.75
7/12	Schuylkill	103	6535	2.75
7/14	Blair	84	6536	2.75
7/15	Lycoming	103	6537	2.75
7/16	Lawrence	50	6538	2.75
7/18	Cumberland	37	6539	2.75
7/21	Dauphin	131	6540	2.75
7/21	Wayne	31	6541	2.75

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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BUTLER—L. Leo Doane, M.D., Butler.
CAMBRIA—Leo W. Hornick, M.D., Johnstown.
CARBON—James B. Tweedle, M.D., Weatherly.
CENTER—James L. Seihert, M.D., Bellefonte.
CHESTER—Charles H. Stone, M.D., Coatesville.
CLARION—Sylvester J. Lackey, M.D., Clarion.
CLEARFIELD—J. Paul Frantz, M.D., Clearfield.
CLINTON—R. B. Watson, M.D., Lock Haven.
COLUMBIA—Luther B. Kline, M.D., Catawissa.
CRAWFORD—Cornelius C. Laffer, M.D., Meadville.
CUMBERLAND—Harry A. Spangler, M.D., Carlisle.
DAUPHIN—Marion W. Emrich, M.D., Harrisburg.
DELAWARE—Adam J. Simpson, M.D., Chester.
ELK—Samuel G. Logan, M.D., Ridgway.
ERIE—A. Girard Cranch, M.D., Erie.
FAYETTE—Charles H. Smith, M.D., Uniontown.
FRANKLIN—John J. Coffman, M.D., Scotland.
GREENE—Rufus E. Brock, M.D., Waynesburg.
HUNTINGDON—John M. Beck, M.D., Alexandria.
INDIANA—Charles P. Reed, M.D., Indiana.
JEFFERSON—John H. Murray, M.D., Punxsutawney.
JUNIATA—Amos W. Shelley, M.D., Port Royal.
LACKAWANNA—Harry W. Albertson, M. D., Scranton.
LANCASTER—Walter D. Blankenship, M.D., Lancaster.
LAWRENCE—William A. Womer, M.D., New Castle.
LEBANON—Samuel P. Heilman, M.D., Lebanon.
LEHIGH—Frederick R. Bausch, M.D., Allentown.
LUZERNE—
LYCOMING—Wesley F. Kunkle, M.D., Williamsport.
McKEAN—Charles F. Elliott, M.D., Bradford.
MERCER—Frank M. Bleakney, M.D., Grove City.
MIFFLIN—Paul M. Allis, M.D., Lewistown.
MONROE—William E. Gregory, M.D., Stroudsburg.
MONTGOMERY—Benjamin F. Huhley, M.D., Norristown.
MONTOUR—Cameron Schultz, M.D., Danville.
NORTHAMPTON—Henry C. Pohl, M.D., Nazareth.
NORTHUMBERLAND—Horatio W. Gass, M.D., Sunbury.
PERRY—Benjamin F. Beale, M.D., Duncannon.
PHILADELPHIA—Samuel McClary, 3d, M.D., Philadelphia.
POTTER—Elwin H. Ashcraft, M.D., Coudersport.
SCHUYLKILL—George R. S. Corson, M.D., Pottsville.
SNYDER—Percy E. Whiffen, M.D., McClure.
SOMERSET—H. Clay McKinley, M.D., Meyersdale.
SULLIVAN—Carl M. Bradford, M.D., Forksville.
SUSQUEHANNA—Dever J. Peck, M.D., Susquehanna.
TIOGA—Lloyd G. Cole, M.D., Blossburg.
UNION—William E. Metzgar, M.D., Alvira.
VENANGO—J. Irwin Zerhe, M.D., Franklin.
WARREN—M. V. Ball, M.D., Warren.
WASHINGTON—Frank Iams Patterson, M.D., Washington.
WAYNE—Sarah Allen Bang, M.D., South Canaan.
WESTMORELAND—Louis F. Wilson, M.D., Greensburg.
WYOMING—Herbert L. McKown, M.D., Tunkhannok.
YORK—Nathan C. Wallace, M.D., Dover.

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

AUGUST, 1919

THE COUNTY, STATE AND NATION, MEDICALLY

Is there a new era dawning for the medical profession and those who follow the healing art? From many sources we hear the statement made that the practice of medicine is changing; that there is a new era breaking, upon this country particularly, that will sooner or later materially affect the medical fraternity and all of the associations which surround it.

Many articles are being written which contain sentiments similar to the above and it behooves us to pause for a moment to consider if these statements are true, and, if so, why.

The first reason that might cause us to believe that a change is occurring is the many cults that are coming forward with greater demand for recognition, especially legislatively, and the seriousness with which their claims are considered. It shows something wanting on the part of the people which is entirely unanswered in the present plan of medical practice.

The war applied most of the scientific principles discovered and used in the last century and at the same time made great strides in new methods, which would not have been so thoroughly proved as to their value were it not for the war. Medical service in the army also proved to medical men the need of greater group effort, greater cooperation in methods of giving the people the thought and service not only of one man, but of others, many if necessary, until the full needs of the individual, either sick or injured, should be relieved or cured. It has been a hard blow to individualistic tendencies of the past, to the medical profession.

The recent visitation of the influenza scourge made skeptics of many people of this country as to the value of medicine and offered opportunity for statements to appear, the authorship of which was not always from a credited source and yet was believed by the laity. These statements gave the impression that it was possible to offer a better treatment, a surer cure for influenza and one not credited by the best element of the medical profession.

We may add a still further reason to believe there is a change in this country and one which has only begun to manifest itself with great force, and that is social insurance in accident, in disease, in old age, in unemployment and in all of the other acts in which insurance measures can be applied, which directly or indirectly affect medical practice. If these things be true, the false security under which some of us have nestled for so long is becoming apparent. It is self-evident that if changes are to come, not of our causing, and we are to be the recipients of those changes, is it not high time for assemblies, such as the state and national organizations, to awaken to the need of economic committees to sound the warning, as well as submit sound and logical advice as to how best to meet these changed conditions? The medical fraternity of Pennsylvania has these conditions in its own borders, which of a certainty shall affect every one in the present and those who come in the future to practice the healing art.

F. L. V. S.

THE HARRISBURG SESSION

The Penn-Harris Hotel and the Capitol buildings will provide ample accommodations for the various meetings and the exhibits at the Harrisburg Session of the state society. The program of the scientific work and the list of delegates will be found on succeeding pages of this issue.

The visiting ladies will be entertained on Tuesday afternoon by a tea at the Civic Club; on Wednesday afternoon, by a lunch at the Colonial Club, and an automobile ride through the beautiful parks of the city.

Tuesday evening there will be a meeting to which the ladies and the public will be invited. On this occasion, the "Sickness Problem, Is Social Insurance the Remedy?" will be discussed by men who have devoted much thought to the subject. Dr. Van Sickle will tell of his work in the Pennsylvania Legislature of 1919. Following this will be a smoker for the physicians.

Wednesday evening there will be the President's Reception in the Penn-Harris ballroom. There will be dancing.

Thursday evening the Scientific Program will be completed by an open meeting for the members and the public. Major M. J. Shields, of the American Red Cross Association, will give a lantern demonstration of First Aid to the Injured. The first aid team of the Bell Telephone Company will give a ten-minute demonstration of its methods. Dr. Francis D. Patterson, of the Pennsylvania Department of Labor and Industry, will discuss the Reconstruction of the War and the Industrial Cripple.

On Monday and Friday there will be clinics at the Pennsylvania Department of Health Tuberculosis and Venereal Dispensaries; also at the Harrisburg Hospital and the Polyclinic Hospital. Each of these will seek to prove of practical benefit to the general practitioner. Emphasis will be placed on the diagnosis of conditions and the cure of the patient. J. W. E.

COMMERCIAL EXHIBIT

Arrangements for the annual meeting of the state society have been perfected. Without doubt, it will be one of the best sessions ever held. The new Penn-Harris Hotel is a beautiful place for the meeting, and accommodations will be adequate. As practically all the meetings, social affairs and exhibit will be held in the hotel, the session will take on the form of a large house party, so that we expect not only a large attendance at the scientific meetings but, socially, the best arrangement that could be made. Physicians are requested to send in their reservations at the earliest possible date.

Arrangements for exhibits have been completed and from present indications there will be a large attendance. Already there have been booked more exhibit spaces than there were at Philadelphia last year. W. H. C.

PROGRAM FOR THE MEDICAL SECTION FOR SEPTMBER MEETING

The program for the Medical Section for the September meeting at Harrisburg is replete with practical subjects that are timely and of special interest to the busy practitioner. The medical members of the profession are requested to look for the announcement of the program in the Journal and come to the meeting prepared to take part in the discussion. When men come properly prepared, the discussion is often of as much if not even of more interest than the paper itself. From the central location of the meeting place, the railroad facilities and the improved highways for automobile travel we expect many practitioners will arrange to attend the annual meeting. G. E. H.

THE SATURDAY EVENING POST ON HEALTH INSURANCE

The *Saturday Evening Post* for July 19 contains the following editorial, each paragraph of which is worthy of careful consideration. We physicians who receive so little encouragement in our efforts to advance preventive medicine should take courage when a publication of the character of the *Saturday Evening Post,* with a circulation of 2,000,000, emphasizes the need of "a vigorous educational campaign on sickness prevention." Organized medicine should continue its efforts for "competent and liberally supported boards of health." The editorial is as follows:

> Compulsory state-managed health insurance on the German pattern does not go well here. Americans—wage earners as much as others—dislike "compulsory"; they dislike being dry-nursed under the paternal hand of the state. The cost would be high. Many members of the medical profession object to it. Many workmen believe it would set up an oppressive discrimination against persons who though not in perfect health are able to do a very good day's work. Compulsory insurance was decisively defeated in the California plebiscite. It failed in New York.
>
> A chief argument against it has been that a much less cost and very much less compulsion on the individual public health can be better conserved by a broad plan of hygienic and preventive measures under competent and liberally supported boards of health. It is pointed out that after thirty-five years of compulsory health insurance the German death rate is higher than ours.
>
> Rejecting compulsory health insurance, then, we should turn energetically to the alternative of better health laws, stronger health boards. There ought to be a vigorous educational campaign on sickness prevention. Rejecting compulsory insurance is merely negative. We ought to attack the positive side.
>
> Of course we do attack it. Every state and probably every village has its health board or health officer. Yet there is no state and no village in which these agencies might not be profitably strengthened. Agitation for compulsory health insurance has had a good result in directing livelier attention to sickness prevention. Keep that up.

PENNSYLVANIA PHYSICIANS' PART IN THE WAR

It is eminently desirable that a full record should be secured and preserved of the work done by the Pennsylvania physicians who entered the service. It is understood that the Surgeon General's Office has sent out a blank regarding data relating to the character of the service and asking for narratives from the physicians who were in the service. These blanks should be promptly and carefully filled out and returned. If, at the same time, the physician would make a transcript of his report and send the same to the secretary of the Medical Society of the State of Pennsylvania it would facilitate the work of the society in this matter, as it is probable that a committee will be appointed at Harrisburg next month to collect such data.

A. C. McKinley, secretary of the Pennsylvania War History Commission, 1300 Locust Street, Philadelphia, closes a letter to Secretary Donaldson as follows:

> The Pennsylvania War History Commission, which is the official body for the collection and preservation of the records of Pennsylvania's participation in the war, is anxious to cooperate with your body in obtaining a complete record of what Pennsylvania physicians have done. If there is any way in which we can join with you in preparing or distributing a blank or in securing copies of service records, I feel sure that the Commission will be glad to undertake it.

STATE NEWS ITEMS

MARRIED

Dr. John E. Livingood, Womelsdorf, and Miss Minnie Elsie Janssen, Wyomissing, July 2.

DIED

John W. Pratt, in Coatesville, July 15, aged 69.

Dr. Oscar D. Schaeffer (Coll. of Phys. and Surg., Baltimore, '86) in Nazareth, July 2, aged 68.

Dr. Elwood Beatty Warner (Jefferson Med. Coll., '82) in Philadelphia recently, aged 60.

Dr. Edward C. Grewer (Univ. of Pennsylvania, '74) in Hazleton, July 7, from apoplexy.

Dr. Silas G. Hertz (Medico-Chirurgical Coll., '89) was found dead in his office in Philadelphia, July 8, aged 88.

Dr. Charles McMunn Slease (Univ. of Pittsburgh, '05) in Turtle Creek, June 21, aged 54.

Dr. Harry Minhern Lavelle, Captain, M. C., U. S. Army (Jefferson Med. Coll., '00) Philadelphia, on duty with the American Military mission in Berlin, died in that city May 28, aged 44, following an operation.

Dr. Edward Hottle (Jefferson Med. Coll., '74) of Philadelphia, in Wayne, June 8, aged 71.

Dr. Robert Meade Smith (Univ. of Pennsylvania, '76) in Norristown, June 22, aged 65, from the effects of a gunshot wound, self-inflicted it is believed, while despondent on account of ill health.

ITEMS

Capt. Logan E. Hull, Altoona, M. C., U. S. Army, has returned from overseas duty.

The Blair and Clearfield County Medical Societies will hold a joint meeting at Tyrone in September.

Capt. A. J. Bird, Overton, M. C., U. S. Army, returned from overseas duty on U. S. S. Shoshone, July 16.

Dr. G. H. B. Terry, Wyalusing, Lieutenant, M. C., U. S. Army, who has been with the Forty-Seventh Engineers in France, has returned.

Dr. M. C. Thrush, Philadelphia, chief of the surgical service of the military district near Chateauvaux, France, returned on the Leviathan, July 5.

Bryn Mawr Hospital received $25,000 as a result of the exhibition for the benefit of that institution held in connection with the recent Devon Horse Show and County Fair.

Pennsylvanians at Atlantic City.—There were 1,071 Pennsylvania physicians registered at the Victory Meeting of the American Medical Association in Atlantic City in June.

Dr. Thomas B. Holloway, Philadelphia, has been appointed to fill the vacancy created by the resignation of Dr. J. Edwin Sweet as attending surgeon at the Wills Eye Hospital.

The Berks County Medical Society held its midsummer outing, July 8, at Allen Hall. Major J. B. Carnett, who was head of the University Hospital Unit in France, was the speaker.

Dr. H. A. Heise, who recently assisted Dr. Bergey, pathologist of United States General Hospital No. 14, will assume charge of the pathological laboratory of the Uniontown General Hospital.

Dr. Thomas C. Stellwagen, Philadelphia, is recuperating in a private hospital in Media, where he has undergone five operations for an infection contracted while operating with a movable unit in France.

Hospital and Orphanage for Italians in Philadelphia.—Approximately $80,000 was raised at the Forrest Theater, June 29, in a campaign for $500,000, for the construction of a hospital and orphanage.

Dr. Cyril H. Haas, for the past nine years head of the Christian Hospital in Tarsus, Turkey, and for the past four years held a veritable prisoner of war, is on his way back to his native home, Selinsgrove.

Dr. W. J. Potts, Greensburg, who served as captain in the Medical Corps, U. S. Army, in Siberia, gave a talk on his trip and stay in that country at the June meeting of the Westmoreland County Medical Society.

Dr. Daniel M. Hoyt, Philadelphia, Lieutenant-Colonel, M. C., U. S. Army, recently in command of Base Hospital Unit No. 55, which operated as a part of the Justice Hospital group at Toul, France, has returned.

Dr. Joseph D. Purvis, Butler, formerly chief of the Section of Hospital Administration of the South Intermediate Zone in France, has succeeded Dr. Clarence V. Clemmer as chief director of the Hahnemann Medical College and Hospital.

Dr. J. Gardner Strickland, Shamokin, who, at his own request, was transferred from the medical corps to the infantry, was twice cited for gallantry in action while serving in France, and has received notice of a third citation which bears the signature of General Pershing.

The Medico-Physiological Association held a three-days session at the Bellevue-Stratford Hotel, Philadelphia, June 18 to 20. The following officers were elected: President, Dr. Henry C. Eyman, Massillon, Ohio; vice president, Dr. Owen Copp, Philadelphia, and secretary-treasurer, Dr. Harry W. Mitchell, Warren.

The New State Quarantine Code, drafted by Commissioner of Health Edward Martin, was approved by Governor Sproul, July 17, and becomes effective at once. The code increases responsibility of doctors to report various diseases, and also the duties of the local boards of health. The powers of the Advisory Board of the Department of Health are also broadened and the way paved to establish regulations for control of venereal diseases.

Bequests.—By the will of the late Mrs. Arimenta A. Herman, Allentown, St. Luke's Hospital, South Bethlehem, receives $1,000; Allentown Hospital, $4,000; Phoebe Deaconess Home, Allentown, $1,500; Good Shepherd Home, Allentown, $3,000; Lutheran Orphans' Home, Topton, $3,000; Bethany Orphans' Home, Womelsdorf, $2,000.

The Luzerne County Medical Society held an Outing Meeting at the Hazleton Country Club, June 18, to which the ladies were invited. Dr. Ross McPherson of New York City gave a paper on "The Conservative Treatment of Eclampsia," and Dr. B. Franklin Royer, Philadelphia, a paper on "The Recent Influenza Epidemic in Pennsylvania."

Hospital at Gettysburg.—The cornerstone of the new Adams County Hospital was laid June 30 in the southwestern part of the town on part of the land occupied the past two years by Camp Colt. The hospital building is the gift of Mr. John M. Warner and will be of sufficient size to meet all the needs of Gettysburg and Adams County for many years to come. It will be fitted to accommodate seventy-five patients and equipped throughout with modern appliances. A campaign is about to be launched in Adams County to raise an endowment fund of $100,000.

Red Cross Supplies to Hospitals.—More than one hundred packing cases of various kinds of bedding and surgical supplies left over at the end of the war have been turned over to thirteen hospitals in Philadelphia and one in Chester by the Southeastern Chapter of the American Red Cross. The hospitals that were the beneficiaries follow: Lying-In Charity, Preston Retreat, Woman's Hospital, Woman's Homeopathic, Gynecean, Salvation Army, Philadelphia General, Jefferson, Chestnut Hill, Rush, St. Vincent, Jewish Maternity, City Maternity and Chester.

Bequests.—The following Philadelphia hospitals have received bequests as follows: Protestant Episcopal, $200,000; Pennsylvania, $200,000; Hospital of the University of Pennsylvania, $100,000; Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, $100,000; Woman's, $100,000; Children's, $100,000; Polyclinic, $50,000; Pennsylvania Training School for Feeble-Minded Children, $25,000; Jefferson, $10,000, by the will of the late Harriet Blanchard of Philadelphia. The Germantown Hospital and Dispensary of Philadelphia is bequeathed $500 by the will of the late Isabel McLeod Bruster. The University of Pennsylvania is bequeathed $100,000 by the will of the late Harriet Blanchard of Philadelphia; Jefferson Medical College, $5,000, and the Pennsylvania Training School for Feeble-Minded Children at Elwyn, $2,000, by the will of the late Dr. J. Ewing Mears of Philadelphia.

"Swat-the-Fly" Campaign.—Dr. William C. Miller, chief of the division of public education of the state department of health, hopes to reach every school child and housewife, every store owner and employee through an educational drive. He is under instructions from Dr. Edward Martin, state commissioner of health, to use the county fairs and summer schools, the churches and Sunday schools in promoting this health propaganda. Boy scouts and social workers are both serving, the latter principally in teaching mothers how to make "kiddie coops," and to manufacture simple contrivances to prevent the breeding of flies. According to statistics compiled by the state health department, every year throughout Pennsylvania, the mortality rate among infants who die from intestinal diseases begins to increase in May coincident with the first appearance of the house fly. Month by month, as the flies multiply the death rate from these diseases rises proportionately.

Vaccination Upheld.—Judge W. Rush Gillan, of the Franklin County Courts, put an end to the antivaccination controversy in that county, when, on July 23, he handed down decrees in twelve cases affirming the judgment of a magistrate who assessed fines on twelve parents who neglected to send their children to school after they had been refused admission because they were not vaccinated. His opinion is as follows: "The law is well settled beyond peradventure of a doubt that the school authorities of every school district are required to exclude from the schools all children who do not produce a certificate signed by a physician, setting forth that said child has been successfully vaccinated or that it has formerly had smallpox. It is just as well settled that every child between the ages of 8 and 16 is required to attend a day school in which the common English branches are taught, that every parent, guardian or person having control or charge of any such child, is required to send such child to school, unless legally excused by the board of school directors on account of mental, physical or other urgent reasons, and that the term urgent reasons shall be strictly construed, and shall not permit of irregular attendance, and that any parent, guardian or person in parental relation having control of such child, who fails to send such child, is guilty of a misdemeanor, and, upon conviction thereof before a magistrate, shall be subject to the penalties provided by the act of assembly."

GENERAL NEWS ITEMS

Dr. Abraham Jacobi (Univ. of Bonn, '51) of New York, one of the foremost physicians of the United States, died July 11 at his summer home on Lake George, aged 89.

Col. Richard P. Strong, M. C., U. S. Army, of Cambridge, Mass., has been appointed acting director of the Bureau of Hygiene and Public Health of the League of Red Cross Societies.

The American Laryngological, Rhinological and Otological Society at its annual meeting in Atlantic City in May elected the following officers: President, Dr. Harris P. Mosher, Marblehead, Mass.; secretary, Dr. William H. Hasking, New York City; treasurer, Dr. Ewing W. Day, Pittsburgh.

Consolidation of Health Establishments.—The Senate amended the sundry civil appropriations bill inserting a provision calling on the members of the War, Navy, Interior, Treasury and Agricultural departments to report to Congress, before December 1, a plan for the consolidation of the various health divisions and bureaus of the government.

The American Pediatric Society at its annual meeting in Atlantic City, June 16 to 18, elected officers for the coming year as follows: President, Dr. Thomas S. Southworth, New York; vice president, Dr. Alfred Hand, Jr., Philadelphia; secretary, Dr. Howard Childs Carpenter, Philadelphia; treasurer, Dr. Charles Hunter Dunn, Boston; recorder and editor, Dr. Oscar M. Schloss, New York.

The International Association of Medical Museums, the American and Canadian Sections, at the twelfth annual meeting held in Atlantic City, June 14, under the presidency of Dr. Oskar Klotz, Pittsburgh, elected the following officers: President, Dr. Oskar Klotz, Pittsburgh; vice presidents, Drs. W. M. Late Coplin, Philadelphia, Harold E. Robertson, Minneapolis, and Howard T. Karsner, Cleveland; secretary-treasurer, Dr. Maud E. S. Abbott, Montreal.

The American Surgical Association, at its annual meeting in Atlantic City, June 16 to 18, elected officers as follows: President, Dr. George E. Brown, New York; vice presidents, Drs. J. F. Binnie, Kansas City, and Alexis Carrel, New York; secretary, Dr. John H. Gibbon, Philadelphia; treasurer, Dr. Charles H. Park, New York; recorder, Dr. John H. Jopson, Philadelphia; member of council, Dr. L. S. Pilcher, Brooklyn. St. Louis was selected as the next place of meeting.

New York Plans $50,000,000 School of Medicine.—Plans to make new York a world medical center by the erection of a $50,000,000 medical college, were announced July 11 by Dr. Royal S. Copeland, Commissioner of Health, after a meeting of prominent physicians and surgeons, at which the New York Association for the Advancement of Medical Education and Medical Science was organized. Dr. Wendell C. Phillips, ear specialist, who planned the association, was elected president.

A New Ruling on Narcotic Drugs.—In accordance with the decision of the U. S. Supreme Court in the Doremus case, the commissioner of internal revenue in Treasury Decision 2879 has revoked the ruling made in Treasury Decision 2200, May 11, 1915, permitting a physician to dispense or prescribe narcotic drugs in a quantity more than necessary to meet the immediate needs of the patient. The old ruling permitted a doctor to prescribe a sufficient amount of narcotic drugs to supply the patient for a reasonable length of time. The Supreme Courts holds that an order for morphin issued to an habitual user thereof, not in the course of professional treatment in an attempted cure of the habit, but for the purpose of providing the user with morphin sufficient to keep him comfortable by maintaining his customary use, is not a prescription within the meaning and intent of the act. The commissioner therefore rules that prescriptions for narcotic drugs in a quantity more than necessary to meet the immediate needs of a patient are violations of the law and that the writer of such a prescription, the druggist who fills it, and the person obtaining drugs thereunder are all liable regardless of the dosage indicated by the prescription. This means that under the ruling of the Federal Supreme Court physicians prescribing narcotic drugs are permitted to prescribe only such amounts as are necessary for the immediate needs of the patient.

The Physician Under Prohibition.—The inauguration of prohibition throughout the United States affects the physician not only as a citizen, but also as a professional man. Necessarily, the law provides some exceptions, in the use of alcohol and various liquors containing alcohol for medicinal purposes. In a circular of instruction to internal revenue collectors and agents the Commissioner of Internal Revenue states that Section 1 of the Act of Nov. 21, 1918 (War Prohibition Law), provides that after June 30, 1919, until demobilization is proclaimed by the President, no distilled spirits, beer, wine or other intoxicating or vinous liquors shall be sold for beverage purposes. It also provides that the commissioner shall prescribe regulations for the sale of distilled spirits for sacramental, medicinal and other than beverage purposes. The commissioner directs that physicians may prescribe wines and liquors for internal use or alcohol for external use as stated last week. Such prescriptions must be in duplicate, both copies signed in the physician's handwriting. Not more than 1 quart of any liquor may be prescribed for a single patient at a given time and in no case shall a physician prescribe alcoholic liquor unless the patient is under his constant personal supervision. Prescriptions must show the name and address of the patient, including the street or apartment number, if any, the date when the prescription was written, the condition or illness for which prescribed and the name of the pharmacist to whom the prescription is to be presented for filling. Physicians should note carefully this provision: The prescription must designate a certain pharmacist and no other pharmacist can fill the prescription than the one designated. The physician must keep a record in which a separate page is allotted to each patient for whom alcoholic liquors are prescribed and must enter thereon, under the patient's name and address, the date of each prescription, the amount and kind of liquors dispensed by such prescription and the name of the pharmacist filling it. Licensed pharmacists or druggists may fill such prescriptions, provided the druggist's name appears on the prescription in the physician's handwriting and provided the druggist has received a permit (Form 737), and provided he has qualified as a retail liquor dealer by the payment of a special tax. No prescriptions for alcohol or alcoholic liquors may be refilled. Druggists filling such prescriptions must preserve, in a separate file, one copy of each prescription filled and once a month must send to the collector of internal revenue in the district in which they are located a list showing the names of physicians prescribing alcohol or alcoholic liquors, the names of the patients and the total quantity dispensed to each patient during the month. If these reports show that a physician is prescribing more than normal quantity or that any patient, through the prescriptions of one or more physicians, is procuring more than the normal quantity, the facts shall be reported to the Commissioner of Internal Revenue and the United States Attorney. Pharmacists are instructed to refuse to fill prescriptions if they have reason to believe that physicians are dispensing for other than strictly legitimate medicinal uses or that a patient is securing through one or more physicians, quantities in excess of the amount required for legitimate purposes. If the prescription is medicated or denatured so as to be unfit for internal use, nonbeverage alcohol tax paid at the rate of $2.20 per gallon may be used in filling the prescription, but if it is not so medicated or denatured, liquor tax paid at the rate of $6.40 per gallon must be used. Physicians preparing or dispensing their own medicines or desiring alcohol for strictly scientific and medicinal purposes must file an application for a permit with the collector of internal revenue of the district in which they live. This application must be accompanied by a bond furnished by a surety company or signed by two individuals as sureties. Both the application and the bond must be in duplicate. On receipt of the application and bond, the collector of internal revenue will issue a permit to the physician authorizing him to have on hand or in transit a certain amount of alcohol or alcoholic liquors, the amount depending on the size of the bond. A bond for $100 allows the physician to have on hand or in transit 20 gallons of alcohol or liquors. The physician must keep an account of all alcohol or alcoholic liquors purchased and on hand and must be ready at any time to produce his records and satisfy the internal revenue inspectors that any amount used has been for legitimate, medicinal, scientific and nonbeverage purposes. Alcohol or alcoholic liquors purchased by a physician under these circumstances cannot be used for his own consumption. The instructions of the Commissioner of Internal Revenue to all government officers is that the law and the regulations regarding alcohol and alcoholic beverages must be strictly enforced. Physicians should familiarize themselves with the instructions under the law and should carefully and rigidly comply with all requirements. In case of doubt, it is best to secure a ruling or an opinion from the collector of internal revenue rather than to take any risk of violating the law.—*Jour. A. M. A.*, July 12, 1919.

BULLETIN EXCERPTS

THE CALL, SOMERSET

Have you read your JOURNAL for June? If you have not done so, do it at once; it is chock full of the things you should know; read the proposed revised Constitution and By-Laws and then instruct your representative to the House of Delegates how to vote on the subject. Read "Alleged Malpractice." Read "Repudiated Membership." Read the editorials. Read the whole thing, list of members, advertisements and all. It will do you good for once in your life.

THE ROSTER, COLUMBIA

WHAT HAS ORGANIZED MEDICINE DONE FOR ME?

The above query may be asked in all fairness by members and nonmembers alike. Physicians who are members of a component county medical society share in many of the general benefits derived therefrom. The medical practice acts of this and other states had their origin in and sustain their defense from organized medicine. State medicine with its beneficent preventive measures derives its origin and support from the members of medical organizations. Needless to say the people of the commonwealth share in the benefits of the outgrowths of medical organizations.

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A LABORATORY MANUAL FOR ELEMENTARY ZOOLOGY. By L. H. Hyman, Department of Zoology, University of Chicago. Chicago: The University Press. Price, $1.50 net; Postpaid, $1.65.

GERIATRICS. A Treatise on Senile Conditions, Diseases of Advanced Life, and Care of the Aged. By Malford W. Thewlis, M.D., Associate Editor, Medical Review of Reviews, New York. With Introductions by A. Jacobi, M.D., LL.D., and I. L. Nascher, M.D. St. Louis: C. V Mosby Company, 1919. Price, $3.

SYMPTOMS OF VISCERAL DISEASE. A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Francis Marion Pottenger, A.M., M.D., LL.D., F.A.C.P., Medical Director, Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, Calif.; Professor of Diseases of the Chest, College of Physicians and Surgeons, Medical Department, University of Southern California, Los Angeles, Calif. With 86 text illustrations and 9 color plates. St. Louis: C. V. Mosby Company, 1919. Price, $4.50.

THE PERITONEUM. By Arthur E. Hertzler, M.D., F.A.C.S., Surgeon to the Halstead Hospital, Halstead, Kan.: Associate Professor of Surgery, University of Kansas; Formerly Professor of Pathology, Experimental Surgery and Gynecology, University Medical College, Kansas City, Mo. Vol. I, Structure and Function in Relation to the Principles of Abdominal Surgery. A contribution from the laboratory of the Halstead Hospital and from the Department of Anatomy of the University of Illinois. Vol. II, Diseases and

Their Treatment. St. Louis: C. V. Mosby Company, 1919. Price, $10.

A Textbook for Nurses. By Fredus N. Peters, A.M., Ph.D., Author of "Experimental Medicine," "Laboratory Experiments," "Modern Chemistry," etc.; Formerly Professor of Chemistry and Director of Laboratories, Kansas City College of Pharmacy; Professor Organic Chemistry, Hahnemann Medical College; Director of Laboratories and Professor of Chemistry and Metallurgy, Kansas City Dental College; Head of Science Department, Kansas City Central High School. Illustrated. St. Louis: C. V. Mosby Company, 1919. Price, $1.75.

BOOK REVIEWS

THE MEDICAL CLINICS OF NORTH AMERICA. Boston Number. Vol. II, No. 5, March, 1919. Philadelphia and London: W. B. Saunders Company.

This issue of the Clinics contains a number of interesting contributions of practical value. A clinic by Dr. Henry A. Christian deals with cutaneous pigmentation, jaundice, palpable liver and spleen and ascites, and with fibrinous bronchitis; one by Dr. John Lovett Morse with infantile scurvy; one by Dr. William P. Graves with cancer of the uterine body as a borderline case in gynecology; one by Dr. Charles J. White with some common errors in (dermatologic) diagnosis and treatment; one by Dr. Channing Frothingham with aortic aneurysm; one by Dr. George R. Minot with Banti's disease, Banti's disease mistaken for peptic ulcer, myelogenous leukemia with low white count and typical chronic myelogenous leukemia; one by Dr. Frederick T. Lord with a pulmonary destructive lesion; one by Dr. Lewis Webb Hill with nephritis in children; one by Dr. Franklin W. White with improvement in the medical treatment of chronic ulcer of the stomach and duodenum; one by Dr. James P. O'Hare with chronic nephritis with edema; one by Dr. Francis W. Peabody with some lessons of the war in the field of cardiac disease; one by Dr. George Cheever Shattuck with chronic pulmonary tuberculosis and arteriosclerosis; war nephritis and chronic adhesive mediastino-pericarditis probable; syphilis, lesion of aortic arch, probably syphilitic; healed ulcer of stomach or duodenum. Dr. Fritz B. Talbot contributes an article dealing with the relation of diet to the development of children, with special reference to the teeth; Dr. John B. Hawes, II, an article on tuberculosis and influenza; Dr. H. Linenthal one on the relation of the clinician to industrial medicine; Dr. Ariel W. George and Dr. Ralph D. Leonard one on the use of the roentgen ray in the study of multiple diverticulitis of the colon and one by Dr. Milton J. Rosenau on some fallacies in the diagnosis of "ptomain poisoning." E.

DIET IN HEALTH AND DISEASE. By Julius Friedenwald, M.D., Professor of Gastro-Enterology, and John Ruhrah, M.D., Professor of Diseases of Children, University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Md. Fifth edition, thoroughly revised and enlarged. Philadelphia: W. B. Saunders Company. Cloth, $6 net.

The authors kept in mind two very significant things, the importance of simplicity and lucidity, and the completeness of material. The subjects of digestion, absorption and metabolism are presented briefly and succinctly. Judicious selection of diet is a growing subject and very important. The classes of foods, the cooking, the preservation so prominent today, and adulterations are well described, and the authors tell why the different selections of foods should be made, and how they should be prepared to give the best results. Infant feeding is well detailed and feeding in special conditions precisely stated. Diet in acute fevers and infectious diseases is given complete, and the metabolic process under the various conditions pointed out and food tolerance clearly defined. In infectious diseases, the authors well describe the powers of absorption and assimilation of foods; they determine the properties of water in health and disease in connection with food, and give the reader that which is acceptable and proven by experience. In disease in which food is the factor, the subject is tersely considered, a minute study given, and conclusions noted. The test meals, accessory diet, carbohydrates and protein are exactly qualified and treatment outlined. Acidosis is made a special study. The food taken in diabetes, both in quantity and character, is very distinct and food tolerance is kept in view. The vitamins are well noted and proper diet defined. Army and navy rations are given complete, and large and small hospital dietaries are made up. Diet in various catarrhal conditions is exactly noted. Along special lines, the description of diet in diseases of the stomach and intestines is of special value today; the authors' study and conclusion regarding diet in cases of ulcers and carcinoma of the stomach and bowels are of prime importance. In a complete study of diet in surgery and after operation their conclusions are safe and liberal.

Diet scales and food tables are a prominent and significant feature of the book and are arranged on an easy working plan for the busy doctor; a very complete list, 20 pages, of chemical composition of meats, cereals and vegetable foods is given, and Locke's table of food values is appended. The vast fields open for investigation and observation have been scanned and only the proven results recorded. The authors brought the facts of clinical experience into closest possible relation with physiology and pathology, and deduced from the nature of the symptoms a basis of rational dietary schemes. Everything is presented in a nice detail, their observations made a safe guide and their conclusions a safe direction for the student and practitioner. A. F. M.

SOCIETY

COLLEGE OF PHYSICIANS OF PHILADELPHIA

Meeting of April 2, 1919, 8 p. m., the President, Col. William J. Taylor, in the chair.

Advancement in the Treatment of Wounds and Infections Resulting from the War.—John H. Gibbon, M.D., late Colonel, M. C., and Consultant in Surgery, A. E. F.: As a result of this war the treatment of wounds and infections has been enormously advanced and this must of necessity influence the practice of civil surgery. Regarding the question of new antiseptics, there is not, nor will there ever be an antiseptic that can supplant the aseptic treatment of wounds. The war has definitely taught the one great lesson in the prevention of wound infection of the immediate and complete mechanical cleansing, what the French call debridement, what we might call mechanical antisepsis. To express in a single term just what this means the word "excision" has been employed, and Crile has made use of the term "revision," but neither excision, and certainly not revision, is a comprehensive term. This mechanical cleansing is the most important step in wound treatment, and the care with which it is carried out determines the proportion of wounds which may be immediately and completely closed, and the proportion of infections and deaths from infections. There must of necessity be a large majority of wounds which cannot be immediately closed. The lapse of time for the occurrence of infection, the presence of comminuted bone, and the necessity for immediate transportation are factors rendering immediate suture unsafe. One of the difficult things to give up was partial closure of wounds with the introduction of drainage. Partial closure, however, is an error because it is much easier to sterilize and close a wound secondarily which has been left wide open than one which is partially closed with a drain.

Primarily, the credit of successful wound sterilization is due to Carrel and Dakin, but certainly the surgeons in the American service owe much to Depage, LeMaistre, Duval and others who have elaborated or simplified the technic. I never appreciated what the Carrel-Dakin treatment was capable of accomplishing until I saw it properly employed in Carrel's own hospital at Compiegne. I am not prepared to say that other agents, such as dichloramin-T, will not sterilize infected wounds, but I do think there is no method so universally applicable and reliable as the Carrel-Dakin treatment. This statement is made not alone on my own experience, but on a fairly wide observation in many American, French and British hospitals. The two criteria for judging the germicidal power of any of these agents are the fall in the bacterial count and the ability to close the wound completely.

In no field of war surgery has the advance been so remarkable as in the treatment of gunshot wounds of joints. At the end of the war a surgeon who did not close a gunshot wound of the knee joint was open to the criticism of not doing up-to-date surgery. In the treatment of gunshot wounds and infections of the chest the advance has been second only to that of joint surgery. Probably the greatest improvement in the treatment of pleural infections we owe largely to Depage in his sterilization of the pleural cavity with Dakin's solution. The gas bacillus was the cause of more amputations and deaths than any other organism. The tetanus bacillus was practically wiped out after the use of the prophylactic injections was regularly enforced.

Some Medical Impressions of the War.—Dr. George William Norris, late Colonel, M. C., U. S. Army: Trench fever, the new, specific, definitely established disease of unknown etiology was the greatest incapacitating factor in the British army. Its transmission by the body louse is universally accepted. It was virtually unknown in the A. E. F., except in the experimental volunteers. A ward full of trench fever patients is one of the gloomiest spots on earth compared with the cheer of the surgical pavilion. Experimental investigations have shown that the disease is a specific entity, due to a filterable virus, present especially in the plasma of the blood. The infective agent may also be found in the urine and sputum of trench fever patients. Major J. E. Sweet has had seemingly almost brilliant results from the intravenous administration of collargol, although the number of cases treated is small owing to the scarcity of the drug. The term trench foot has been applied to the vasomotor, nervous and trophic disturbances of the feet of soldiers exposed to wet trenches. We were able to relieve pain and hasten cure by the administration of sodium iodid (20 grains t. i. d.).

Influenza apparently differed not at all from that seen in the United States. It was especially fatal among those who did not promptly report at sick call. At ports of debarkation the most harrowing scenes were witnessed. One transport brought in 500 cases of pneumonia and it was reported that the Olympic alone on one occasion landed 1,500 cases of influenza; that the Leviathan brought 1,200 cases and had over 100 corpse on board. Ships on which the procedure of masking was rigidly carried out had practically no influenza.

Only about two of ten chest-wound cases which have reached the evacuation hospital require surgical intervention, for unless there be infection, aspiration of the intrapleural blood is generally sufficient. The physical signs in these cases differ greatly from those in civil life. Nearly always the diaphragm is high on the affected side. This produces a tympanitic note at a level above that at which such a sound is normally encountered. Tympany over an injured lung is very common, and may result from free intrapleural air, relaxed lung, high abdominal viscera, gas bacillus infection. Hemothorax, pulmonary collapse, or both may occur without penetration of the chest wall; also they may occur on the side opposite to that of the injury. One of the commonest mistakes made by one not familiar with war wounds is that of diagnosticating a pneumonia on the unwounded side. Cardiac displacement is one of the most important criteria for judging the location and size of an effusion. A field hospital full of freshly and badly gassed men is the most horrible and ghastly sight of the war. To see a hundred or more men, hale and hearty a few hours before, slowly strangling to death from pulmonary edema is a never-to-be-forgotten sight. The cyanotic cases are promptly bled one pint, sometimes two, and the ward looks like a shambles. Oxygen is administered. Opium we dare not use for it checks an oft life-saving cough. Digitalis intravenously with timely bleeding has snatched many a man from the jaws of death. For the victims of the mustard gas we can do but little. Their faces are red and blistered, their eyes swollen shut, edematous and weeping pus. With the removal of their clothes there came large areas of skin. Fever is present, with dyspnea, chest pain, delirium and incessant cough. These patients die a lingering death from bronchopneumonia, and in their terminal delirium they fight their battles, curse the Hun, or call to loved ones at home. No one could go through the last twenty months of the war abroad without being profoundly influenced and broadened, but that the internist profited by the acquisition of professional experience and knowledge is, to say the least, doubtful.

Dr. Joseph Sailer: The opportunities in clinical medicine offered by the army base hospitals here and abroad were exceptional in the matter of the very large numbers of cases of individual disease presented to our observation. In this way we were able to test various methods of diagnosis and treatment. At

Vichy, hotels were used for hospitals; while they were well equipped they were not ideal for the treating of cases. The fearful labor of climbing the stairs was a great disadvantage. Some of the men in the A. E. F. most worthy of praise were the stretcher bearers in the hospital centers. Perhaps 600 bed cases of a consignment of 1,200 patients would be carried from the first to the sixth floor only to be carried down again to the roentgen-ray room. Not in all Vichy was there in the hotels an elevator large enough to carry a stretcher. Great difficulty was encountered in attempting to isolate the various cases, the pneumonia from the influenza, and particularly from the gas cases. Another difficulty was in handling the infectious cases. During an epidemic of diphtheria, by masking everybody in the hotel and taking cultures of every one at intervals of twelve hours it was possible to minimize the number of cases.

Dr. James E. Talley: In fifteen months serving with the Navy in France I personally saw but one case of typhoid. That was in a man of fifty-five in our own hospital who did not take the prophylactic treatment since it is not required of men of his age. Unfortunately, he had typhoid and died of perforation. In the early part of our experience we were obliged to treat infectious diseases in one shack separated only by curtains. There were measles, diphtheria, scarlet fever, mumps and cerebrospinal meningitis, but we had no case of crossed infection. This I think speaks well for the nurses and hospital apprentices.

Dr. Clifford B. Farr: Not all the mustard gas cases were so severe as those described by Dr. Norris. After seeing with him a group such as he mentioned I saw some 200 cases slightly gassed with "mustard" gas in which hardly a death occurred. At the Experimental Field we made histological studies of tissue from exposed animals; also pathologic studies of human material sent to us from the gas hospitals. Practically all the cases of mustard gas poisoning (human) had destructive changes in the larynx, trachea and bronchi; even down to the smallest bronchi the epithelium was entirely destroyed. Infection followed, so that in practically all the cases the lesions of bronchopneumonia were present. An interesting feature of the pathology was that some of the later cases showed regenerated epithelium coming from the mucous glands and spreading out on the surface of the bronchial tubes. This was stratified squamous and not the normal ciliated epithelium. What the histologic lesions may be in the patients who recovered can only be determined by necropsies in "cured" gas cases, the patients dying from other causes.

Dr. Alfred Stengel: The newer ideas on the diagnosis and treatment of empyema, and the use of immune serum in the treatment of disease impress me as important medical contributions of the war. In the use of immune serum I have had opportunity to confirm some of the work done in the army service. In some work of my own above five years ago I treated some cases of pneumococcus pneumonia with the injection of immune serum from patients just convalescing from the disease. These results were satisfactory although the work was not carried very far. In the recent epidemic of influenzal pneumonia the most encouraging results have been reported in the Army and Navy with the use of immune serum and along this line my own recent experience has been confirmative. Of fifteen cases of pneumonia so treated two patients have died. If the use of immune serum can be put on a basis of usefulness for pneumococcus pneumonia, as well as for influenzal pneumonia, we shall have acquired something of extraordinary value.

Dr. John H. W. Rhein: I cannot say that very much that is new has come out of the study of the nervous phenomena of warfare. Probably the greatest problem was presented by the condition termed "shell shock." Profiting by the experience of the English, we established neurological hospitals some distance behind the lines and made provision to send patients from the field hospitals to the Army neurological hospitals from which they were evacuated to Hospital No. 117 provided for neurological cases. We estimated that 80 per cent. by these provisions could be restored and not sent back to the hospitals.

Dr. H. A. MacKnight: In the surgical cases which had been gassed the administration of ether caused these patients to become cyanotic. With ethyl chlorid an operation of half an hour or an hour could be carried out without alarming symptoms. The French used ethyl chlorid quite extensively.

Dr. S. Solis Cohen: I would like to ask Dr. Stengel if he does not recall the observations made by Dr. William E. Hughes something like thirty years ago at the Philadelphia Hospital with Dr. Carter, now of Texas, who was then an intern, on the use of convalescents' sera in pneumonia. They treated quite a number of cases with striking results, following the method of two German physicians named Klemperer. They then gave up the method because of a number of failures. The serum of convalescents from scarlatina has been used for many years both in Europe and America with excellent results, and many suggestions have been made, or attempts instituted, for similar procedures in all infections, including even gonorrhea and syphilis and tuberculosis.

COUNTY SOCIETY REPORTS

CHESTER—JUNE

The Chester County Society met in the Chester County Hospital, West Chester, June 17, Vice President Hoskins presiding. After reading the minutes of the last meeting a communication from the Antituberculosis League, held over from the last meeting, was read. A committee of three, consisting of Drs. Joseph Scattergood, T. C. Aiken and H. Y. Pennell, was appointed to arrange for a public meeting on the subject of tuberculosis, this meeting to be at a place and on a date which would not interfere with the regular meeting of the society.

Dr. Willis N. Smith, Phoenixville, presented evidence in his possession concerning unprofessional conduct on the part of a physician of this county but not a member of our society. The matter was referred to a committee, consisting of the censors and Dr. Smith, who will confer with the district attorney and do what seems to them best.

Dr. Charles H. Stone read a paper on "The Use of Dichloramin-T in Industrial Open Wounds," giving his experience with this antiseptic in the treatment of at least three thousand open wounds. In his opinion it is the best antiseptic yet devised for the treatment of industrial open wounds if combined with careful surgery. Charles H. Stone, Reporter.

CHESTER—JULY

The Chester County Society met at the Chester County Hospital, July 15, Vice President Hoskins presiding. Following the regular order of business, Dr. Joseph Scattergood suggested placing a bronze tablet at Mont Alto in honor of the work of Dr. Joseph T. Rothrock, who was the pioneer of the sanatorium treatment of tuberculosis in Pennsylvania. After a brief discussion by Drs. Gifford and Sharpless as to the advisability of having Dr. Rothrock's work recognized by larger and more important bodies, such as the state medical society, a committe was appointed to investigate the different designs of tablets and report at the next meeting.

Dr. Pemberton Hollingsworth read a paper on medical experiences in France and in the United States, giving a very comprehensive description of the medical service at Camp Johnston, Jacksonville, Fla., which included the development of a bacteriological laboratory at the base hospital at that post, and the work of this laboratory during an epidemic of meningitis. Later his work included the examination of a large number of recruits for tuberculosis and other diseases. During the voyage on the transport to France Dr. Hollingsworth had several interesting experiences, among them operating on a patient for ruptured appendix amid ocean with untrained assistants and under very unsatisfactory surgical conditions, but with a satisfactory recovery of the patient. In France his experiences were extremely interesting as surgeon of a remount squadron whose duties were to keep the troops in the line well supplied with horses and mules. During this time his work, like that of other regimental surgeons, was chiefly confined to sanitation and preventive medicine. In this connection he emphasized the importance of the cooperation of commanding officers in securing the desired results in regard to cleanliness of billets, mess halls, etc. He found, also, that the work of the nutritional experts who were sent by the government to supervise the preparation of food in the different camps was most valuable, and did much to keep the men well fed and contented. During the latter part of the winter and spring he was detached from his unit and placed on duty with casual troops en route to the United States. In conclusion, he stated that his principal impressions from his experiences were: (1) The great value of concerted, properly organized work along medical lines; (2) the value of going around and seeing and hearing medical workers in other posts; (3) the marked unselfishness and gameness of our enlisted men in all branches of the service; no matter how great the privation or how hard the job they went ahead with it, and did not complain.

Dr. J. K. Patrick gave a short description of five months' service in the United States Navy, which included a two months' course at the Naval Medical School, where he received an excellent course in tropical diseases and surgery.

Dr. Walter Webb described the control of an influenza epidemic at Perth Amboy, where in spite of the proximity of the troops to the town where the epidemic was raging, very few cases developed owing to the strict quarantine measures. He emphasized the value of complete rest of from three to four weeks for all patients suffering from influenza. He also stated that extremely beneficial results had been secured in cases of acute gonorrhea by the injection of typhobacterin and complete rest in bed for one week.

Dr. G. T. Magraw, Avondale, related his three months' military service at Camp McClellan as medical officer of a development battalion. He made a strong plea for the stimulation of interest in preventive medicine in the people of all communities.

Dr. Henry Pleasants, Jr., described medical work with one of the divisions in France, including an outline of the system of evacuation of patients from the front line on the Vesle River in August, 1918.

Henry Pleasants, Jr., Reporter.

CLEARFIELD—JULY

The Clearfield County Society met in the new Maple Avenue Hospital, Dubois, July 16, and was fairly well attended. After routine business was transacted, a number of interesting cases of epitheliomata were demonstrated by Dr. G. W. Gann. Dr. E. E. Houck presented a paper on "Hyperthyroidism," which was followed by a discussion led by Drs. Stewart and Brockbank. Following this the members were invited to the operating section of the hospital where Dr. J. C. Sullivan held an instructive clinic.

J. Paul Frantz, Reporter.

LEBANON—JULY

At the July meeting of the Lebanon County Medical Society Dr. John Marshall, who has been in service overseas, related his experiences abroad as to fractures and their treatment, and emphasized the fact that the strong point in the recent war medical work was in the direction of sanitation and preventive measures. The senator and representatives of this district were voted the thanks of the society for their opposition to vicious medical legislation and their approval of measures in line with good medical practice during the recent session of the state legislature.

S. P. Heilman, Reporter.

IS YOUR COMMUNITY FIT?

A nation-wide campaign for the prevention of venereal diseases has been organized. Have you consulted your health officer on the part your city should play in this important work? Is your community planning to take advantage of the recent federal enactment and appropriation for the control of venereal diseases throughout the United States? Has an ordinance been passed which will enable your health department to take up this matter in an effective manner? Proper reporting of dangerous sources of infection and their adequate treatment and control beyond the contagious stages is essential. The establishment of places where infected persons can be given expert treatment and advice will greatly aid in limiting the spread of these diseases which are so disastrous to mankind.—*Pub. Health Rep.*, April 25, 1919.

Sixty-Ninth Annual Session of the Medical Society of the State of Pennsylvania

HARRISBURG, SEPTEMBER 22-25, 1919

HOTEL ACCOMMODATIONS FOR THE HARRISBURG SESSION

The Penn-Harris will be the official headquarters during the Harrisburg Session, Sept. 23 to 26, 1919. The officers of the society will be located there. The scientific meetings will be held in the hotel and in the state capitol building. The social and the business meetings, the commercial exhibits and the registration booth will be located on the second floor of the Penn-Harris Hotel.

Below is given a list of the hotels and rates per day, European Plan. Members should write to the hotels direct for reservations. On account of the crowded conditions of the hotels at this time of the year it would be advisable wherever possible for two persons to occupy one room, also to make reservations as early as possible.

Hotels (European Plan)		ROOMS			
		Without Bath		With Bath	
	Capacity	Single	Double	Single	Double
Penn-Harris (Headquarters), Third and Walnut Sts..	500		$4.00–$5.00 (2 people)		$4.50–$6.00 (2 people)
Bolton, Market Square	200	$3.50–$4.00 (running water)		$4.50	$5.50
Metropolitan, Fourth and Market Streets	200	$1.50	$2.50	$1.50–$3.50	$3.50–$4.00
Columbus, Third and Walnut Streets	125	2.00	3.00	2.50– 3.00	$4.00 up
Senate, Market Square	50	$2.00–$2.50 (running water)		$3.00	
Hotel Carlton, Market Street	40	1.00– 1.50 (running water)		2.00	3.50
Hershey House, Market Street	40	$1.50 up			
Rife, Walnut Street	25	1.50		2.25	

HARRISBURG—THE CITY OF CONVENTIONS

Harrisburg has numerous features which cause it to stand out when the various attractions and facilities of other Pennsylvania cities are compared to it. Its unexcelled railroad facilities, hotel facilities, places of public interest and historical significance, and, not least, its position as capital of Pennsylvania enable it to take its place second to no other Pennsylvania city in regard to its attractions for visitors.

Every Pennsylvanian will appreciate at a glance the unusual strategic value of Harrisburg's location in regard to railroad and motor transportation. Few cities have so favorable a geographical position. More than one-fifth of the population of the United States lies within 300 miles of the city, and railroads to serve this vast mass of population radiate in seven different directions from the city. The great markets of the east, Philadelphia, New York, Baltimore and Pittsburgh, are from two to six hours away, while a night's ride is all that separates it from New England, Buffalo, Chicago and the markets of the Middle West.

The city is on the converging point of three main railroad lines, thereby earning it the title of "The Heart of Distribution." It has long been the center of the Pennsylvania, Philadelphia and Reading, Cumberland Valley, and Northern Central Railroads. It is on the main line of the Pennsylvania Railroad between New York and Pittsburgh, with branches to Williamsport, Rochester, Buffalo and Canadian points; Wilkes-Barre in the anthracite regions; York, Baltimore and Washington on the south; while the Cumberland Valley Railroad insures transportation into Maryland and Virginia, making important southern and western connections. The Philadelphia and Reading Railway provides an additional outlet to New York, by way of Reading and Allentown, and to Pittsburgh by the Western Maryland Railway.

Almost $6,000,000 have been spent during the past few years in permanent improvements in Harrisburg, which now stand as a lasting memorial of the public-spiritedness which permeates the capital of the state. As a result, the municipality owns a $310,000 filtration plant, and a municipal pumping station which forces 10,500,000 gallons of pure water through 100 miles of waterpipe lines daily.

At the present time the state, in cooperation with the city government, is in the act of improving the capitol grounds so that they will be the most beautiful in the entire country. The plans now adopted include the erection of the most beautiful monumental viaduct in the world as a memorial to the state's soldiers and sailors, at a cost of $3,000,000. The extension of the capitol park with the erection therein of two departmental office buildings, at a cost of $2,500,000 each, will also be completed as soon as possible.

Pennsylvania State Capitol.

Mulberry Street Viaduct.

Societies in selecting Harrisburg as the meeting place for their conventions, find on arrival a veritable municipal garden. Firmly believing that the satisfied workman is the best workman, the city fathers long ago laid out a system of municipal parks that now constitute one of the main attractions of Harrisburg. The park zone is so vast there is an acre of public park for every seventy-eight persons in the city. These include the beautiful River Front Park, Reservoir Park, equipped with public golf course; Wildwood Park, with boating and skating facilities maintained on its mile-long lake; twelve recreation parks and twelve public playgrounds where instruction and equipment are maintained free of charge. Prominent among numerous spots of entrancing beauty set in the midst of the well-kept city is Capitol Park in which the wonderful state capitol building is placed like an architectural gem in a setting of rare natural beauty.

Penn-Harris Hotel, Headquarters for the Harrisburg Session.

Harrisburg and vicinity abound in points of interest of great historical significance, which make the stay of the visitor well worth while. Among them are: Fort Washington, just across the river, marking the most northern point of the Confederate advance; the famous battlefield of Gettysburg, 46 miles to the south; the grave of John Harris, father of the founder of the city, in River Front Park, near Mulberry Street; Harris Mansion, 219 North Front Street; Executive Mansion, 313 North Front Street; Paxtang Park, with 18 acres of amusement facilities including boating, swimming, summer theater, and other attractions; Hershey Park, 12 miles to the east, and the model city of the Hershey Chocolate Company; the beautiful Masonic Home at Elizabethtown, 17 miles away; the convalescent hospital for veterans of the great war, at the former Indian School at Carlisle; the Rockville four-track railroad bridge 4 miles north of the city, famous as the longest stone arch bridge in the world.

There are forty-four public halls in the city, so that even the largest conventions and gatherings find ample accommodations.

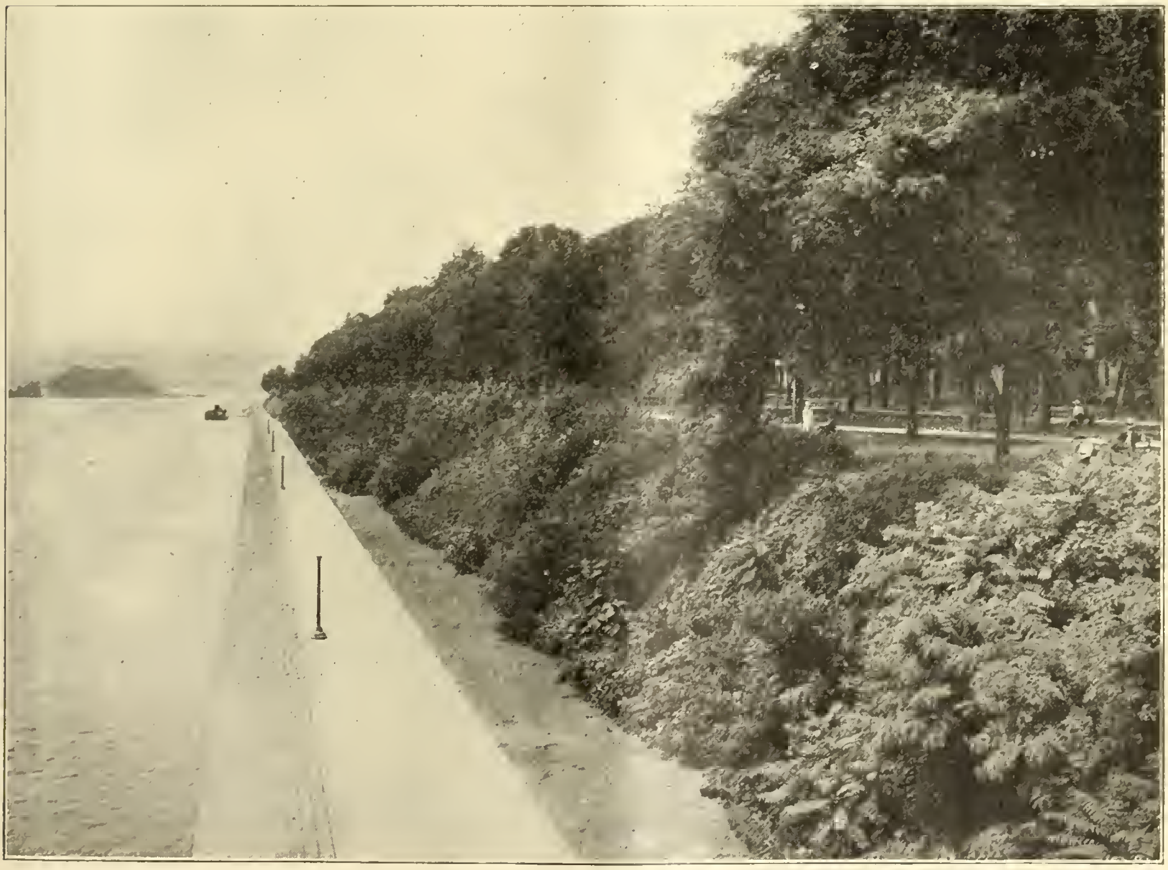
Harrisburg has sometimes been called "The Pittsburgh of Central Pennsylvania." More than 10,000 men are employed in the steel and iron business, and at Steelton, 4 miles away, Charles M. Schwab's huge steel plant employs approximately 7,000 men. The city, however, is not dependent on any one product to keep its army of wage earners busy. The 150 manufacturing plants are engaged in the manufacture of almost every conceivable article, including machinery, boilers, casters, iron and brass pipes, bridges, tubing and coils, typewriters, clothing, motor trucks and tractors, bookbinding and bookruling machinery, boxes, burial cases, structural shapes, frogs and switches, metal wheelbarrows, billing machines, and hundreds of other articles.

Formal Entrance of River Bridge.

Golf Links, Reservoir Park.

The city has depended solely on its geographical position and physical advantages for its commercial aggrandizement, for bonuses and concessions have played no part in its industrial progress. Raw materials, including stone, iron and lumber, are right at hand, while some of the largest hard and soft coal

Harrisburg Hospital.



River Front Park.

deposits of the wrold lie within easy transportation distance, furnishing abundant fuel at moderate prices for its manufacturers.

It is readily conceded that no third class city in Pennsylvania can point to so many educational advantages as Harrisburg offers its youth. Three hundred forty-three teachers are employed at a cost of more than $350,000 annually, and an additional $250,000 is spent for equipment and maintenance of the schools. A fund of $2,125,000 has been voted for the financing of a reorganization program, which is now under way. Only a few of the schools which were in existence in 1902 are standing today. New buildings numbering close to a dozen have been constructed, and a number of the old ones have been renovated. There are thirty-two school buildings, including a vocational high school for boys, a high school for girls, and an open air school. Besides the public schools, there are nine private schools, six parochial schools, four business colleges and four kindergartens. Some of the most famous colleges of the East lie only a few miles away.

Harrisburg's prosperity is attested by the rapidly mounting real estate values, which now total $62,000,000, an increase of $10,000,000 over two years ago. The city has sixteen banks, including four national banks, with total resources of $33,000,000.

The population of the city is increasing by leaps and bounds. The present population of the city proper is more than 78,000, while the Harrisburg district, intimately connected with the city itself by trolley and steam, has a population of 100,000.

MEMBERS OF THE HOUSE OF DELEGATES

(The offset names are the alternates, and where street address only is given, the name of the city follows the name of the county.)

ADAMS COUNTY

John C. Felty, Gettysburg, Pres.
Henry Stewart, Gettysburg, Secy.
Tempest C. Miller, Abbottstown.
Eugene Elgin, East Berlin.

ALLEGHENY COUNTY (PITTSBURGH)

(Entitled to only eleven elective delegates.)

James P. McKelvy, 519 N. Highland Ave., Pres.
William H. Mayer, Jenkins Arcade, Secy.
(Term Expires in 1919.)
John M. Thorne, Jenkins Arcade.
George W. Stimson, Jenkins Arcade.
Alvan W. Sherrill, 5506 Ellsworth Ave.
James K. Everhart, 5504 Harriett St.
Charles H. Hayes, 125 Hazelwood Ave.
W. Clark Maxwell, Highland Bldg.
Joseph M. Douthett, Center Ave. and Graham St.
William A. Terheyden, 4810 Liberty Ave.
John M. Luther, Jenkins Arcade.
Joseph E. Willetts, Jenkins Arcade.
George S. Schoyer, Highland Bldg.
W. J. K. Snyder, Avalon.
Edward E. Mayer, Jenkins Arcade.
Edward L. Sutton, Lincoln Ave., Bellevue.
(Term Expires in 1920.)
Edward B. Heckel, Jenkins Bldg.
George L. Beswick, Wilmerding.
Clyde O. Anderson, 7041 Frankstown Ave.
Samuel Ayres, Jenkins Arcade.
Sidney A. Chalfant, Jenkins Arcade.
John S. Donaldson, 600 Lincoln Ave., Bellevue.
Stewart L. McCurdy, Jenkins Arcade.
Lucian C. Fausold, Glenshaw.
Louis H. Hector, 706 First St., N. S.
Adolph Koenig, Westinghouse Bldg.
Jay D. Iams, Chartiers Ave., Sheridan.
Wesley W. Jones, 822 Wood St., Wilkinsburg.
John Purman, 100 W. Eighth St., Homestead.
George C. Kneedler, Jenkins Arcade.
Edward P. Logan, 1111 Arch St., N. S.
Clement R. Jones, Empire Bldg.
C. Bradford McAboy, 7136 Hamilton Ave.
Franklin B. Miller, Fulton Bldg.

ARMSTRONG COUNTY

David I. Giarth, Ford City, Pres.
J. B. F. Wyant, Kittanning, Secy.

BEAVER COUNTY

Robert M. Patterson, Beaver Falls, Pres.
Boyd B. Snodgrass, Rochester, Secy.

BEDFORD COUNTY

William P. S. Henry, Everett, Pres.
Harry I. Shoenthal, New Paris, Secy.

BERKS COUNTY (READING)

George W. Overholser, 309 N. Ninth St., Pres.
Charles P. Henry, 846 Center Ave., Secy.
Israel Cleaver, 223 S. Fifth St.
George W. Kehl, 418 N. Tenth St.
H. Philemon Brunner, 122 Oley St.
Frank G. Runyeon, 1390 Perkiomen Ave.

BLAIR COUNTY (ALTOONA)

Samuel P. Glover, 1118 Twelfth Ave., Pres.
Charles F. McBurney, 710 Ninth St., Secy.
Davis A. Hogue, 922 Seventeenth St.
W. Albert Nason, Roaring Spring.
Clair W. Burket, 523 Fourth St.

BRADFORD COUNTY

Daniel L. Bevan, Leroy, Pres.
Cyrus Lee Stevens, Athens, Secy.

BUCKS COUNTY

I. Swartz Plymire, Doylestown, Pres.
Anthony F. Myers, Blooming Glen, Secy.

BUTLER COUNTY (BUTLER)

(Entitled to only one elective delegate.)

Joseph D. Purvis, 140 E. Jefferson St., Pres.
L. Leo Doane, 203 S. Main St., Secy.
Elgie L. Wasson, County National Bank Bldg.
M. Edward Headland, 216 Center Ave.
L. Leo Doane, 203 S. Main St.
Willis A. McCall, 215 S. Main St.

CAMBRIA COUNTY (JOHNSTOWN)

Harry J. Cartin, 100 Main St., Pres.
Leo. W. Hornick, 130½ Market St., Secy.

CARBON COUNTY

Calvin J. Balliet, Lehighton, Pres.
Jacob A. Trexler, Lehighton, Secy.

CENTER COUNTY

John V. Foster, State College, Pres.
Melvin J. Locke, Bellefonte, Secy.
George S. Frank, Millheim.
James L. Seibert, Bellefonte.
Harvey S. Braucht, Spring Mills.

CHESTER COUNTY

Jackson Taylor, Coatesville, Pres.
Joseph Scattergood, West Chester, Secy.

William T. Sharpless, West Chester.
 Howard Y. Pennell, East Downingtown.

CLARION COUNTY

Charles V. Hepler, New Bethlehem, Pres.
 Charles C. Ross, Clarion, Secy.

CLEARFIELD COUNTY (CLEARFIELD)

Arthur D. Cowdrick, 108 N. Second St., Pres.
 John M. Quigley, 922 Dorey St., Secy.
Ward O. Wilson, 210 N. Second St.
 Lever F. Stewart, 108 N. Second St.

CLINTON COUNTY

Percy M. Tibbins, Beach Creek, Pres.
 Robert B. Watson, Lock Haven, Secy.
James L. Lubrecht, Lock Haven.
 William E. Welliver, Lock Haven.

COLUMBIA COUNTY

Isaac E. Patterson, Benton, Pres.
 Luther B. Kline, Catawissa, Secy.
Charles B. Yost, Bloomsburg.
 Jacob R. Brobst, Bloomsburg.
 Joseph Cohen, Berwick.

CRAWFORD COUNTY

John K. Roberts, Meadville, Pres.
 Cornelius C. Laffer, Meadville, Secy.
Margaret B. Best, Meadville.
 Harry L. Brush, Conneaut Lake.
 Cornelius C. Laffer, Meadville.

CUMBERLAND COUNTY

Henry C. Lawton, Camp Hill, Pres.
 Calvin R. Rickenbaugh, Carlisle, Secy.
Edward R. Plank, Carlisle.
 David W. Van Camp, Plainfield.
 Newton W. Hershner, Mechanicsburg.

DAUPHIN COUNTY (HARRISBURG)

Jesse L. Lenker, 232 State St., Pres.
 George B. Stull, 217 Woodbine St., Secy.
J. Edward Dickinson, 228 N. Second St.
Clarence R. Phillips, 1646 N. Third St.

DELAWARE COUNTY (CHESTER)

C. Irvin Stiteler, Fifth and Welsh Sts., Pres.
 Walter E. Egbert, 601 E. Thirteenth St., Secy.
Adrian V. B. Orr, 408 Crozer Bldg.
 Clifford H. Arnold, 301 W. Seventh St.
 A. Chester Wolfe, Ridley Park.

ELK COUNTY

Russell P. Heilman, Emporium, Pres.
 Maurice T. Leary, Ridgway, Secy.
Maurice T. Leary, Ridgway.
 Samuel G. Logan, Ridgway.

ERIE COUNTY (ERIE)

Edward Cranch, 813 Sassafras St., Pres.
 B. Swayne Putts, 143 W. Eighth St., Secy.
Fred Fisher, Jr., 324 E. Sixth St.
Chester H. McCallum, 219 W. Eighth St.

FAYETTE COUNTY

Simon H. Baum, Uniontown, Pres.
 George H. Hess, Uniontown, Secy.
 George W. Neff, Masontown.
 Jacob S. Hackney, Uniontown.
Arthur E. Crow, Uniontown.
 George H. Robinson, Uniontown.

FRANKLIN COUNTY

Samuel D. Shull, Chambersburg, Pres.
 John J. Coffman, Scotland, Secy.
Frank N. Emmert, Chambersburg.
 Harry M. Miley, Chambersburg.
 Fairfax G. Wright, Chambersburg.

GREENE COUNTY

Thomas B. Hill, Waynesburg, Pres.
 Harry C. Scott, Waynesburg, Secy.
Thomas B. Hill, Waynesburg.
 Robert W. Norris, Waynesburg.
 Rufus E. Brock, Waynesburg.

HUNTINGDON COUNTY

Henry C. Chisholm, 528 Penn St., Huntingdon, Pres.
 John M. Beck, Alexandria, Secy.
George G. Harman, 523 Penn St., Huntingdon.
 John M. Keichline, Jr., Petersburg.
 John M. Herkness, Mount Union.

INDIANA COUNTY

Charles E. Rink, Indiana, Pres.
 Frederick W. St. Clair, Indiana, Secy.

JEFFERSON COUNTY

Harry B. King, Reynoldsville, Pres.
 Norman C. Mills, Eleanor, Secy.

JUNIATA COUNTY

Benjamin H. Ritter, McCoysville, Pres.
 Brady F. Long, Mifflin, Secy.
William H. Haines, Thompsontown.
 Isaac G. Headings, McAlisterville.
 Joseph S. Brown, Okeson.

LACKAWANNA COUNTY (SCRANTON)

Frederick J. Bishop, 521 Connell Bldg., Pres.
 William T. Davis, County Savings Bank Bldg., Secy.
William R. Davies, Traders Bank Bldg.
 Thomas Monie, Archbald.
 J. Norman White, 832 N. Main St.
Albert J. Winebrake, 441 Wyoming Ave.
 Irwin W. Severson, 647 N. Main Ave.
 Benjamin G. Beddoe, 324 S. Main Ave.

LANCASTER COUNTY (LANCASTER)

Frank Alleman, 420 W. Chestnut St., Pres.
 Horace C. Kinzer, 128 N. Duke St., Secy.
J. Paul Roebuck, 233 N. Duke St.
 Adam V. Walter, Brownstown.
 Walter N. Keylor, Leacock.
Theodore B. Appel, 305 N. Duke St.
 Charles P. Stahr, 139 E. Walnut St.
 John J. Newpher, Mount Joy.

LAWRENCE COUNTY

William C. Burchfield, New Castle, Pres.
 William A. Womer, New Castle, Secy.

LEBANON COUNTY

F. A. Rutherford, Lebanon, Pres.
 Charles M. Strickler, Lebanon, Secy.
Edwin B. Marshall, Annville.
 Milton B. Fretz, Palmyra.
 John Walter, Lebanon.

LEHIGH COUNTY (ALLENTOWN)

Charles H. Muschlitz, Slatington, Pres.
 Griffith S. Lawall, 534 N. Sixth St., Secy.
Frederick R. Bausch, 109 N. Second St.
 Frank S. Boyer, 16 N. Second St.

LUZERNE COUNTY (WILKES-BARRE)

August Trapold, 239 S. Washington St., Pres.
 Elmer L. Meyers, 239 S. Franklin St., Secy.
Lewis H. Taylor, 83 S. Franklin St.
 Samuel P. Mengel, 181 S. Franklin St.
 Walter Lathrop, State Hospital, Hazleton.

Herbert B. Gibby, 96 S. Franklin St.
Harry M. Keller, 215 W. Broad St., Hazleton.
Charles H. Miner, 115 S. Franklin St.

LYCOMING COUNTY (WILLIAMSPORT)

George W. Metzger, Hughesville, Pres.
Walter S. Brenholtz, 151 E. Third St., Secy.
Randall B. Hayes, Jersey Shore.
Robert D. Spencer, 415 Lincoln Ave.
J. Elmer Schaefer, Cogan Station.
Edward Lyon, 24 W. Fourth St.
John A. Campbell, Newberry Sta. (838 Funston Ave.)
George C. Davis, Milton (Northumberland Co.).

MC KEAN COUNTY

Louis D. Joseph, Bradford, Pres.
James Johnston, Bradford, Secy.

MERCER COUNTY

George W. Kennedy, Sharon, Pres.
Frank M. Bleakney, Grove City, Secy.
Frank M. Bleakney, Grove City.
Patrick E. Biggins, Sharpsville.

MIFFLIN COUNTY

Silas M. Hazlett, Allensville, Pres.
James A. C. Clarkson, Lewistown, Secy.

MONROE COUNTY

Eugene H. Levering, 805 Main St., Stroudsburg, Pres.
Esther W. Gulick, 520 Main St., Stroudsburg, Secy.

MONTGOMERY COUNTY

Richard H. Harris, Elkins Park, Pres.
Edgar S. Buyers, Norristown, Secy.
Herbert A. Bostock, Norristown.
William G. Miller, Norristown.
Oliver C. Heffner, Pottstown.
J. Newton Hunsberger, Norristown.
Willis R. Roberts, Norristown.
Benjamin F. Hubley, Norristown.

MONTOUR COUNTY

Harold L. Foss, Danville, Pres.
Cameron Shultz, Danville, Secy.

NORTHAMPTON COUNTY

Charles Collmar, Easton, Pres.
Paul H. Kleinhans, Bethlehem, Secy.
Victor J. Koch, Nazareth.
Senn G. Beck, Hecktown.
Milton W. Phillips, Chapman Quarries.
John E. Fretz, Easton.
Edgar M. Green, Easton.
William H. McIlhaney, Easton.

NORTHUMBERLAND COUNTY

William H. Eister, Line St., Sunbury, Pres.
Charles H. Swenk, Market St., Sunbury, Secy.
Horatio W. Gass, Market St., Sunbury.
John W. McDonnell, N. Fourth St., Sunbury.

PERRY COUNTY

Henry O. Orris, Newport, Pres.
Lenus A. Carl, Newport, Secy.

PHILADELPHIA COUNTY (PHILADELPHIA)

(*Entitled to only eighteen elective delegates*)

B. Franklin Stahl, 1727 Pine St., Pres.
J. Morton Boice, 4020 Spruce St., Secy.
(Term Expires in 1919.)
Wilmer Krusen, 127 N. Twentieth St.
Rae S. Dorsett, 4027 Girard Ave.
Harry A. Duncan, 2615 W. Somerset St.
Paul J. Pontius, 1831 Chestnut St.
Joseph A. Moore, 1216 N. Sixth St.
Jesse O. Arnold, 4149 N. Broad St.
William S. Wray, 2007 Chestnut St.
Sarah H. Lockrey, 1701 Chestnut St.
Thomas R. Currie, 512 W. Lehigh Ave.
George A. Knowles, 4812 Baltimore Ave.
William N. Bradley, 1725 Pine St.
Stuart C. Runkle, 1605 Christian St.
L. Webster Fox, 303 S. Seventeenth St.
Lida Stewart Cogill, 1831 Chestnut St.
Francis Ashley Faught, 5006 Spruce St.
J. Allen Jackson, Phila. Hos. for Insane.
Ernest G. Maier, 1325 N. Fifteenth St.
Henry G. Godfrey, 2054 E. Cumberland St.
Max F. Herrman, 3703 Old York Rd.
Daniel Longaker, 1402 N. Sixteenth St.
Thomas J. Byrne, 1517 S. Broad St.
Tello J. d'Apery, 767 N. Fortieth St.
J. Bernard Mencke, 908 N. Sixteenth St.
L. Demme Bauer, 1713 W. Girard Ave.
Albert J. Blackburn, 3813 Powelton Ave.
F. Mortimer Cleveland, 5211 Walnut Sa.
Norman L. Knipe, 2007 Chestnut St.
(Term Expires in 1920.)
John D. McLean, 1520 Spruce St.
John J. Robrecht, 3940 Chestnut St.
Sidney L. Olsho, Fifteenth and Locust Sts.
J. Montgomery Baldy, 2219 DeLancey St.
Brooke M. Anspach, 1827 Spruce St.
George C. Yeager, 1419 E. Susquehanna Ave.
F. Hurst Maier, 2035 Chestnut St.
Joseph M. Asher, 1335 N. Broad St.
Victor A. Loeb, 1622 N. Fifteenth St.
John W. West, 1125 Wallace St.
Charles S. Barnes, 2035 Chestnut St.
Willard H. Kinney, 124 S. Eighteenth St.
Harriet L. Hartley, 1534 N. Fifteenth St.
Dorothy Donnelly, 213 Green Lane, Rxb.
Frances C. Van Gasken, 115 S. Twenty-Second St.
J. Morton Boice, 4020 Spruce St.

Hiram R. Loux, 1819 Walnut St.
Judson Daland, 317 S. Eighteenth St.
Addinell Hewson, 2120 Spruce St.
Frederick J. Kalteyer, 1533 Pine St.
Frank C. Hammond, 3311 N. Broad St.
Harry Hudson, 1602 Erie Ave.
Maurice J. Karpeles, 146 W. Chelten Ave., Gtn.
Stephen E. Tracy, 1527 Spruce St.
Charles S. Potts, 2018 Chestnut St.
Rose S. Rubin, 881 N. Seventh St.
Henry Beates, Jr., 260 S. Sixteenth St.
Frank White, 1302 N. Broad St.
William A. Steel, 3300 N. Broad St.

POTTER COUNTY

John H. Page, Austin, Pres.
Elwin H. Ashcraft, Coudersport, Secy.

SCHUYLKILL COUNTY

(*Entitled to only one elective delegate.*)

T. Lamar Williams, Mt. Carmel, Pres.
George R. S. Corson, Pottsville, Secy.
William T. Williams, Mt. Carmel.

Arthur B. Fleming, Tamaqua.
Abram P. Seligman, Mahanoy City.
John J. Dailey, McAdoo.
Henry C. Bowman, Gilberton.

SNYDER COUNTY

Percival Herman, Kratzerville, Pres.
Percy E. Whiffen, McClure, Secy.
Marand Rothrock, Mt. Pleasant Mills.
A. Jerome Herman, Middleburg.
John O. Wagner, Beaver Springs.

SOMERSET COUNTY

George F. Speicher, Rockwood, Pres.
H. Clay McKinley, Meyersdale, Secy.
Charles P. Large, Meyersdale.

SULLIVAN COUNTY

William H. Randall, Avis, Pres.
Carl M. Bradford, Forksville, Secy.

SUSQUEHANNA COUNTY

William J. Condon, Susquehanna, Pres.
Edward R. Gardner, Montrose, Secy.

TIOGA COUNTY

Henry C. Harkness, Mansfield, Pres.
Solomon P. Hakes, Tioga, Secy.
William C. Wilson, Morris Run.
Silas D. Molyneux, Blossburg.
Lloyd G. Cole, Blossburg.

UNION COUNTY

Harry R. Thornton, Lewisburg, Pres.
Amos V. Persing, Allenwood, Secy.

VENANGO COUNTY

James R. Sharp, Oil City, Pres.
John F. Davis, Oil City, Secy.
Elmer L. Dickey, Oil City.
Samuel W. McDowell, Pittsville.

WARREN COUNTY (WARREN)

Christian J. Frantz, 128 Pennsylvania Ave. E., Pres.
Edwin S. Africa, 304 Liberty St., Secy.
Paul G. Weston, State Hospital for Insane.

WASHINGTON COUNTY

Olie P. Dearth, 46 Highland Ave., Akron, Ohio, Pres.
Charles C. Cracraft, Claysville, Secy.
William D. Martin, Dunn's Station.
William H. Lewis, Donora.
Charles B. Wood, Monongahela.
Frederick C. Stahlman, Charleroi.

WAYNE COUNTY

Louis B. Nielsen, Honesdale, Pres.
Edward O. Bang, South Canaan, Secy.
Arthur J. Simons, Newfoundland.
Harry C. White, Ariel.
Allen A. Berlin, Newfoundland.

WESTMORELAND COUNTY

Charles E. Snyder, Greensburg, Pres.
Myers W. Horner, Mt. Pleasant, Secy.
Ellsmer L. Piper, Export.
R. E. Lee McCormick, Irwin.
Thomas P. Cole, Greensburg.
William H. Taylor, Irwin.
Thomas St. Clair, Latrobe.
Harry W. Tittle, New Florence.

WYOMING COUNTY

Anderson D. Tewksburry, Tunkhannock, Pres.
Herbert L. McKown, Tunkhannock, Secy.

YORK COUNTY (YORK)

John Gilbert, 373 W. Market St., Pres.
Nathan C. Wallace, Dover, Secy.
Alfred A. Long, 34 S. Beaver St.
Harry B. King, 257 E. Market St.
G. Emanuel Spotz, 11 E. Market St.
Charles W. Eisenhower, 211 S. George St.
Lewis H. Fackler, 451 W. Market St.
Arthur B. Shatto, 220 S. George St.

PRELIMINARY PROGRAM

GENERAL MEETING

PENN-HARRIS HOTEL: BALLROOM.

Tuesday, September 23, 10 a. m.

Call to Order by the President.
Frederick L. Van Sickle, Olyphant.

Prayer.
Rev. Lewis S. Mudge, Pastor, Pine Street Presbyterian Church.

Address of Welcome.
Hon. William C. Sproul, Governor, Commonwealth of Pennsylvania.

Address of Welcome.
Jesse L. Lenker, Harrisburg, President of the Dauphin County Medical Society.

Presentation of Program.
John F. Culp, Harrisburg, Chairman of the Committee on Scientific Work.

Announcements of Entertainments.
J. Wesley Ellenberger, Harrisburg, Chairman of the Committee on Arrangements.

Introduction of Delegates from Other Societies.

Installation of the President-Elect.

No. 1.

President's Address. Cyrus Lee Stevens, Athens.

(The stenographer will collect all papers as soon as they are read.)

No. 2.

Community Sanitation as Based on the Knowledge of Camp Sanitation.
William G. Turnbull, Cresson.

Outline. What camp sanitation has taught us is possible in communal life. The difficulties of making effective in cities, boroughs and townships, the measures found efficient in camps. All of these difficulties, however, may be overcome. How it can and will be done.

No. 3.

A Safe Water Supply.
C. A. Emerson, Jr. (By invitation.) Chief Engineer, State Department of Health.

Outline. Improvement of water supplies: (1) Protection of sources against pollution; (2) by filtration and chlorination. Function of sewer systems and necessity for sewage treatment. Methods of protection of milk supplies: (1) Inspection; (2) pasteurization. Practical and approved methods of garbage disposal. Results of housing campaigns. General decline of typhoid rate as result of state-wide sanitary improvements.

Discussion on preceding two papers opened by William K. Evans, Chester.

No. 4.

Roentgen Ray as an Aid to Diagnosis of Chest Conditions.
Clarence R. Phillips and Allen Z. Ritzman, Harrisburg.

Outline. Lantern slides giving clinical history of patients and comparing results of the diagnoses arrived at by the usual methods of auscultation and percussion with the diagnoses as attested by the roentgen ray. Difficulties in arriving at a proper diagnosis by means of the physical findings in many cases. Careful examination will reveal quite accurately much of the involvement. Most of all we purpose to make this a "show-down" in the matter of physical diagnosis. This should be of some value to the physician in ordinary medical practice.

Discussion opened by Thomas Klein, Philadelphia.

Stenographer—Miss L. C. Alexander, 313 S. Seventeenth St., Philadelphia.

Tuesday, September 23, 8 p. m.

BALLROOM

Impressions Resulting from Experience in the Pennsylvania Legislative Session of 1919.
Frederick L. Van Sickle, Olyphant.

The Sickness Problem—Is Social Insurance the Remedy?

Lee K. Frankel, New York (by invitation); John B. Anderson, Secretary, American Association for Labor Legislation, and John B. McAlister, Harrisburg.

Buffet Luncheon and Supper follow this meeting.

Wednesday, September 24, 9 a. m.

BALLROOM

No. 5.

Physical Findings of Pennsylvania Men in the Draft.

Major W. G. Murdock (by invitation), State Draft Executive for United States Army.

Discussion opened by Frederick L. Van Sickel, Olyphant.

No. 6.

Blood Transfusion Practical Demonstration. (20 Minutes.)

William H. Furness and Walter Estell Lee, Philadelphia.

Outline. Value and application in emergencies and for relief of chronic conditions. Technic. Citrate method. Untreated blood method. The rapid test against hemolysis blood transference.

Discussion opened by Edward Martin, Philadelphia.

No. 7.

Some Psychological Fallacies in the Treatment of Neuroses and Psychoses.

Charles W. Burr, Philadelphia.

Outline. Psychology a science largely indulged in by amateurs. Very attractive to intellectual paranoiacs. Amateur medical psychologists usually dominated by one of two ideas, sometimes by both: (1) Freudism, and (2) that people suffering from psychoses can be talked into believing themselves well. Both are fallacious. There are other things in mental life than "libido," and the existence of a subconscious mind is purely hypothetical and one cannot appeal to reason when reason is absent.

Discussion opened by Theodore H. Weisenburg, Philadelphia.

No. 8.

What the Medical Reserve Corps of the Army Should Be.

Edward Martin, Philadelphia, Commissioner of Health of the Commonwealth of Pennsylvania.

Outline. Organization. Recognition and compensation. The relation to regular service. Duties and Obligations. Classification. Preparation: (1) Physical; (2) in organization and correlation, and (3) in service technic.

Discussion opened by M. W. Ireland, Surgeon-General, U. S. Army.

No. 9.

Pennsylvania's Campaign Against Venereal Diseases.

S. Leon Gans, Philadelphia.

Outline. Control of venereal diseases from Department of Health view-point. Prevalence; education; detection; cure.

Discussion opened by Peter P. Mayock, Wilkes-Barre.

No. 10.

The Importance of Reconstruction in Civil Accident Surgery. Jonathan M. Wainwright, Scranton.

Discussion opened by John B. Lowman, Johnstown.

Stenographer—Mrs. Miriam C. Repp, 926 S. Sixtieth St., Philadelphia.

Thursday, Septemper 25, 2 p. m.

BALLROOM

No. 11.

Observations on the Diagnosis of Some Common Skin Diseases, Including Cancer of the Skin. (20 Minutes.)

T. Caspar Gilchrist, Baltimore, Md. (By invitation.)

Outline. Acne vulgaris and its treatment; new method of treatment of psoriasis, with comments on its etiology; diagnosis of macular lues, pityriasis, rosea and tinea versicolor; the treatment of eczema; diet, vaccine therapy; recurrent blisters on the fingers, hands and feet due to ringworm; impetigo contagiosa. Cancer of the skin, early diagnosis, varieties, treatment with radium; birthmarks on children successfully treated with radium, etc. Lantern slides.

Discussion opened by Frank C. Knowles, Philadelphia.

SYMPOSIUM ON PNEUMONIA AND EMPYEMA

No. 12.

Bacteriology and Pathology. (20 minutes.)

John A. Kolmer and Baldwin H. Lucke, Philadelphia.

No. 13.

Symptomatology and Diagnosis.

Thomas G. Simonton, Pittsburgh.

Outline. Referred pain. Anatomical explanation of symptoms that develop suddenly simulating membranous croup, due to a beginning pneumonia at hilus of lung, causing irritation of vagus, and its branch, the recurrent laryngeal nerve. Paralysis of recurrent laryngeal nerve accounts for the partial and complete aphonia, abductor laryngeal muscular paralysis, and inspiratory paralysis. Citation of cases.

No. 14.

Treatment. Lawrence Litchfield, Pittsburgh.

Outline. Intrinsic dangers to be foreseen and guarded against; care of the respiratory, digestive and circulatory systems; specific therapy aimed at the infection itself and its toxic effects. Contrast between the importance of diet in pneumonia and diet in empyema. The treatment of empyema considered only from the standpoint of the internist—importance of the early recognition of other complications and sequelae of pneumonia.

No. 15.

Surgical Complications.

Evan William Meredith, Pittsburgh.

Outline. Frequency. Character of infection. Structures commonly involved; pleura; pericardium; peritoneum; joints. Characteristics of the inflammatory exudate in serous lined cavities. Diagnosis. Indications for operative interference. Different operative procedures. Mortality.

No. 16.

Acute Alveolar and Interstitial Emphysema in Influenzal Pneumonia. (Lantern demonstration.) (20 min.)

Frank F. D. Record, Harrisburg, Associate Chief, M. C., Base Hospital, Camp Devens, Mass.

Outline. History. Description in detail as to the pathology of influenzal pneumonia showing that the bacillus influenza produces a characteristic pneumonia of its own (illustrated by lantern slides); production of the several types of emphysema; namely, acute alveolar, interstitial and subcutaneous. Symptomatology of subcutaneous emphysema. Brief study by radiographic lantern slides of influenzal pneumonia with secondary invasion of other organisms. Conclusions.

Discussion on preceding five papers opened by William O. Sherman, Pittsburgh; M. Howard Fussell, Philadelphia, and George R. Moffitt, Harrisburg.

Unfinished Business.

Announcement of Committees by the President.

Adjournment.

Stenographer—Miss L. C. Alexander, 313 S. Seventeenth St., Philadelphia.

Thursday, September 25, 8 p. m.

BALLROOM

No. 17.

First Aid in Industrial Accidents.

Ten-Minute Practical Demonstration of First Aid by a First-Aid Team of the Bell Telephone Company.

Address.

Major M. J. Shields (by invitation), Field Representative, American Red Cross, Washington, D. C.

No. 18.

Reconstruction of the War and Industrial Cripple. (Lantern Demonstration.)

FRANCIS D. PATTERSON, Harrisburg.

SECTION ON MEDICINE

PENN-HARRIS HOTEL: BALLROOM.

OFFICERS OF SECTION

Chairman—GEORGE E. HOLTZAPPLE, 203 S. George St., York.

Secretary—M. HOWARD FUSSELL, 2035 Walnut St., Rxb., Philadelphia.

Executive Committee—J. WESLEY ELLENBERGER, Harrisburg; DAVID RIESMAN, Philadelphia; IRWIN J. MOYER, Pittsburgh.

Stenographer—MISS L. C. ALEXANDER, 313 S. Seventeenth St., Philadelphia.

(The Secretary of the Section will collect all papers as soon as they are read.)

TUESDAY, SEPTEMBER 23, 2 P. M.

No. 1.

Address by the Chairman.

GEORGE E. HOLTZAPPLE, York.

No. 2.

Advantages of a Full-Term Health Officer for Cities of 20,000 to 60,000 Inhabitants.

J. FRANK SMALL, York.

OUTLINE. Present apathy of physicians for prompt bacteriological reports on their every-day cases. Necessity of experienced medical men to direct all matters pertaining to public health. Necessity for more liberal remuneration of those in charge of matters pertaining to public health. Desirability of comprehensive public health survey, and of laboratory facilities for use of county medical inspectors.

SYMPOSIUM ON COMMUNITY SERVICE TO THE INSANE

No. 3.

The Rôle of the General Hospital.

FRANCIS X. DERCUM, Philadelphia.

OUTLINE. Every hospital should be equipped to receive any kind of case. In mental disease emergency is sometimes very great and it should be possible to take patient to a general hospital, if only temporarily. Purposes would be proper diagnosis and immediate necessary treatment effectually carried out. If study shows that patient suffers from a form of mental disturbance, transfer to a state hospital for insane or other institution may at any time be made. Equipment necessary would consist of two small wards with a few rooms for isolation and of two or more baths for prolonged immersion in disturbed cases.

No. 4.

Community Organization.

CLYDE R. MCKINNISS, Pittsburgh.

OUTLINE. Present community interest in Pennsylvania inadequate to insure best treatment of mental patient, especially in acute cases prior to commitment and during period of parole from hospital. To what extent can existing organizations be used to improve condition? An organization must have support of community. Desire for such may spring up and result in proper handling of social problems. After commitment, majority of insane are treated in hospitals, supported entirely or in part by State Board of Charities, too widely separated. Condition being remedied to some extent. Could not an organization cover more closely entire state? Existing hospitals for insane, whether state or operating under County Care Act, or other hospitals that do not admit mental patients but are supported in part by state, could be community centers, and more readily accessible to mental patient early in illness, and after-care could be administered from a point within the immediate community.

No. 5.

The Duty of the State. OWEN COPP, Philadelphia.

OUTLINE. Welfare of citizens first duty of a state; health the basic factor. Mental health not less important than physical; same methods applicable. Hospital provision for mental patients supplemented by community service, which is preventive, promotive of early treatment, protective of public safety, reducing accumulation of chronic in institutions by increasing discharge rate and diminishing admission rate. Community service a necessary function of every state hospital for mental patients and demands adequate organization and support as a recognized obligation; not only humanitarian, but very good business.

Discussion on the preceding three papers opened by J. ALLEN JACKSON, Philadelphia, and THEODORE DILLER, Pittsburgh.

No. 6.

Prevention of Communicable Respiratory Diseases Based on Observations in the Army Camps.

ORLANDO H. PETTY, Philadelphia.

OUTLINE. General sanitary measures strictly composed of measures to prevent dust on drill grounds and in barracks; the handling of food supplies and cooking. Personal hygiene, particularly of the mouth, nose, and excretory functions. Prevention of spread of infection by personal contact. Use of gauze masks. Specific therapy by lipovaccines, bacterins, etc.

No. 7.

Epidemic Cerebrospinal Meningitis. Diagnosis and Treatment. Based on Observations in the Army.

JOSEPH SAILER, Philadelphia.

OUTLINE. Treatment before introduction of serum. Nature of action of serum; methods of administration. Intravenous administration. Treatment of complications, particularly intraventricular pressure and collapse. Treatment of paralytic sequelae.

No. 8.

The Value of Early Diagnosis of Pleural Effusions.

SAMUEL A. SAVITZ, Philadelphia.

OUTLINE. Divisions dependent on morphological character of exudate. Both types, serous and purulent, discussed from a clinical and a bacteriological standpoint. Well to consider all serous exudates as tubercular. Pleural effusion without an initial attack of primary pleuritis more common. Thorough study of chest advised, with proper interpretation of physical findings. Particular stress on percussion. Palpation and auscultation of little value. Frequent use of aspirating needle advocated and value emphasized. Great frequency of mistaking pleural effusions for other respiratory diseases; rôle played by diseases of pleura preceding pulmonary tuberculosis. Error of discharging patients with what is regarded as a slight attack of pleuritis, but in reality is pulmonary tuberculosis traceable to a primary attack of simple pleurisy. It is urged that surgical aspects of thorax be considered.

Discussion on preceding three papers opened by ARTHUR C. MORGAN and PENN G. SKILLERN, Philadelphia.

No. 9.

Present Status of Therapeutic Pneumothorax in Tuberculosis.

ALEXANDER ARMSTRONG, White Haven.

OUTLINE. Brief review of history of procedure. Various improvements in technic. Classification of indications for this treatment. Method of treatment widely used. Results continue to be very satisfactory. Need for further study of pleura in suitable cases.

Discussion opened by HENRY R. M. LANDIS and ISADORE KAUFMAN, Philadelphia.

WEDNESDAY, SEPTEMBER 24, 2 P. M.

BALLROOM

Report of Executive Committee.

Election of Officers.

No. 10.

The Importance of Early Diagnosis and Treatment of Syphilis; Clinical and Laboratory Diagnostic Methods. JOSEPH V. KLAUDER, Philadelphia.

OUTLINE. Fate of Syphilitic depends on promptness of diagnosis and intensity of treatment at this time. Chancre a local expression of beginning generalization of a serious infectious disease; eruption the consummation of generalization. The chancre, from a diagnostic standpoint, the most important syphilitic lesion. At time of appearance, possibility of cure is greatest with least amount of treatment. Every genital lesion regarded as a chancre until proved otherwise. Diagnostic methods. Important clinical features of a chancre. Atypical chancre. Mixed infection. Concealed chancre.—one beneath an adherent or phimosed foreskin. Intra-urethral chancre. Difficulty of diagnosis on clinical grounds alone. Procedure in presence of doubtful chancre. Comparative diagnostic value of dark-field examination and Wassermann reaction.

No. 11.

Pulmonary Syphilis.

Elmer H. Funk, Philadelphia.

Outline. Does lung syphilis exist? Can it be recognized clinically? Its frequency. Tendency in some quarters to deny existence clinically of pulmonary syphilis and in others to diagnose it frequently on slight grounds. The disease is more often treated for tuberculosis before the true nature is discovered. Differential diagnosis. Brief case reports.

No. 12.

Removal of Spinal Cord Tumor, Resulting in Entire Disappearance of Paraplegia and Neurologic Signs.

Theodore Diller and **Otto C. Gaub**, Pittsburgh.

Outline. A vigorous young woman exhibited progressive weakness of legs, terminating in complete paraplegia accompanied by sensory symptoms, exaggerated knee jerks, ankle clonus, Babinski toe reflex. Diagnosis of tumor, in or pressing on spinal cord in lower segments. Successful removal by Dr. Gaub. Almost immediate recovery of power in toes, then feet, and this gradually progressed until patient was able to walk about. Disappearance of neurological signs. Error in localization discussed.

No. 13.

Sexual Psychoneuroses as Studied in a Medical Clinic.

Edward J. G. Beardsley, Philadelphia.

Outline. Study of a series of adolescent patients suffering from anxiety neuroses due to overstimulation of sexual centers. Protean character of the symptomatology. Diversity of diagnoses previously based on symptoms present. Necessity of complete physical, special and laboratory examination. Prevalence and frequent neglect of these conditions in general practice. Tendency of patients to drift to irregular practitioners. Etiologic factors that cause and accentuate the condition. Urgent necessity of parents being better instructed regarding sexual hygiene. Public instruction. Necessity of friendly and sympathetic interest by family physician in ever-present sex problems of younger generation. Necessitiy for fathers, mothers, physicians, teachers, to remember how large a part sex thoughts and impulses play in life of majority of adolescents. Successful treatment of the condition.

No. 14.

Cardiovascular Phenomena Associated with War Neuroses.

George Morris Piersol, Philadelphia.

Outline. Inconspicuous rôle of organic heart disease among troups of expeditionary forces. Cardiovascular phenomena observed, generally associated with war neuroses in which true cardiac changes were uncommon in spite of subjective cardiac symptoms. Reflex disturbances, mental changes and exhaustion the obtrusive phenomena of so-called "effort syndrome." Etiologic factors in effort syndrome. Its diagnosis and possible dangers of such diagnosis. Occurrence of "effort syndrome" in civilians, and application to civil practice of lessons learned in its management.

No. 15.

The Significance of Cardiac Murmurs, Based Upon Results of Examination in the United States Army.

Edward H. Goodman, Philadelphia.

Outline. Definition of terms used. Recognition of murmurs, which are a cause for rejection of the recruit, and of those without appreciable effect on capacity of individual to perform military duty. Final criterion depends on condition of heart muscle and not on murmur. Possible application of military experience to civilian practice.

No. 16.

The Importance of Early Diagnosis of Circulatory Defects. Methods of Their Recognition.

Thomas McCrae, Philadelphia.

No. 17.

Methods of Treatment of Early Circulatory Defects.

Alfred Stengel, Philadelphia.

Discussion on preceding four papers opened by **Albert E. Roussel**, Philadelphia.

Thursday, September 25, 9 a. m.

JOINT MEETING WITH THE SECTION ON SURGERY
BALLROOM

SYMPOSIUM ON DISEASES OF THE GASTRO-INTESTINAL TRACT

No. 18.

Dagnosis of Cholecystitis and Gallstone.

David Riesman, Philadelphia.

Outline. Problems of right upper quadrant of abdomen among most interesting and difficult in medicine. Typical cases of gallstone disease readily diagnosed; atypical cases create difficulties. Other abdominal conditions, enumerated in paper, resemble gallstone disease in their symptomatology; likewise pneumonia, pleurisy, pericarditis, angina pectoris, etc. Crises of tabes dorsalis may simulate gallstone colic. Jaundice often absent; its presence has diagnostic value. Relationship of pregnancy and puerperium to cholecystitis and gallstone very important. Cholecystitis resembles appendicitis in variability of symptoms and severity. Ofter calculous in origin, or due to calculus plus infection. It may, however, be a complication of typhoid fever, pneumonia, etc. Diagnosis of acute case usually easy; chronic cases require careful study and differentiation from gastric or duodenal ulcer, pancreatitis, appendicitis, etc.

No. 19.

The Value of Roentgen Ray.

Henry K. Pancoast, Philadelphia.

Outline. Roentgen study of gastro-intestinal tract not a substitute for careful clinical examination. Intended to verify clinical diagnosis, especially in substantiating or disproving presence of a serious condition, or of assisting in deriving a correct diagnosis by supplying information that cannot be obtained or is uncertain clinically. Every case should be worked up clinically before referring it for a roentgen study. Clinical data not essential to roentgenologist, but a few facts are sometimes important in deciding between two conditions, or in properly identifying the causes of certain phenomena observed. When clinical data are desirable, a careful gastric analysis or presence of a palpable mass perhaps the most important. Roentgen study will not reveal every condition involving gastro-intestinal tract and its scope should be thoroughly understood by the clinician. Usually the study should include entire tract from esophagus down.

No. 20.

Careful Study of Cases vs. Exploratory Incision of Gastro-Intestinal Lesions.

John H. Gibbon, Philadelphia.

Outline. Exploratory incision justifiable only after employment of all possible means of making a diagnosis. Tendency to look on conditions as emergencies and to do exploratory operations when an approximate diagnosis can previously be made, result too often in a multiplication of incisions, a repetition of operation and occasionally in unnecessary death of patient.

No. 21.

Surgical Treatment.

Alfred C. Wood, Phialadelphia.

Outline. Ulcer and cancer from a surgical viewpoint; various operative procedures compared; results. Rôle of biliary and pancreatic tracts in acute abdominal condition. Intestinal obstructions.

No. 22.

Medical Treatment.

John A. Lichty, Pittsburgh.

Outline. All treatment which is nonsurgical. In many cases a necessary part of a routine method adopted for determining diagnosis. It should be as definite in its prosecution as conditions and circumstances will allow. Few medical agencies are necessary. Polypharmacy is evidence of an indefinite understanding of case. Limitations of diet and medication in any case should be recognized as promptly as circumstances will permit. Throughout whole course of observation and treatment a surgeon willing to go into details of diagnosis should be consulted.

No. 23.

The Attitude of the General Practitioner.

William E. Robertson, Philadelphia.

Outline. General lack of attempt in direction of more definite diagnosis. Rather frequent failure to appreciate apparent gastric disturbance among pretuberculous or incipient tuberculous symptoms. Confusion of such a condition with gastric ulcer. Part played by vegetative nervous system. Lack of more definite knowledge of dietetics and the more or less blind adherence to drugs and unnecessary use of proprietary medicines, the doctor becoming unconsciously the advance agent of many useless, alleged remedies.

No. 24.

The Value of High Enemata.

Henry D. Jump, Philadelphia.

Outline. The high enema produces no better results than the low enema. Repeated efforts in a number of individuals in various postures have failed to carry the rectal tube past the sigmoid flexure; tube invariably doubles back upon itself. An enema given slowly through a short tube travels far into the bowel. Lantern slides of roentgen-ray photographs illustrate these facts.

Discussion on preceding seven papers opened by **Thomas McCrae**, Philadelphia.

SECTION ON SURGERY

CAPITOL: HOUSE CAUCUS ROOM

OFFICERS OF SECTION

Chairman—DONALD GUTHRIE, Sayre.

Secretary—ELLWOOD R. KIRBY, 1202 Spruce St., Philadelphia.

Executive Committee—LEVI J. HAMMOND, Philadelphia; A. RALSTON MATHENY, Pittsburgh; JOHN L. ATLEE, 129 E. Orange St., Lancaster.

Stenographer—MRS. MIRIAM C. REPP, 926 S. Sixtieth St., Philadelphia.

(The Secretary of the Section will collect all papers as soon as they are read.)

TUESDAY, SEPTEMBER 23, 2 P. M.

No. 1.

Address of the Chairman.
DONALD GUTHRIE, Sayre.

No. 2.

Diagnosis and Treatment of Congenital Pyloric Stenosis.
ALBERT F. HARDT, Williamsport.

OUTLINE. Condition often unrecognized; frequency; symptoms. Medical vs. surgical treatment; choice of anesthesia; Rammstedt's operation; after treatment. Results.

Discussion opened by LEVI J. HAMMOND, Philadelphia.

No. 3.

Fracture of the Pelvis.
SAMUEL P. MENGEL, Wilkes-Barre.

OUTLINE. Frequency in mining regions; complications, especially rupture of bladder and urethra; early recognition imperative; importance of thorough drainage. Report and analysis of cases.

Discussion opened by WALTER S. STEWART, Wilkes-Barre, and JONATHAN C. BIDDLE, Fountain Springs.

No. 4.

The Field of Major Surgery Under Local Anesthesia.
PENN G. SKILLERN, Philadelphia.

OUTLINE. Advantages of local anesthesia; illustrative cases. Nerve-blocking vs. infiltration. Nerve-blocking ideal procedure and applicable for operations on head, neck and upper extremities; illustrative cases. Paravertebral anesthesia for chest and abdomen. Supreme indication for spinal anesthesia in hip-joint or thigh amputation. Local anesthesia in chest surgery. Abdominal under local anesthesia. Margin of safety in toxic shock patients increased in anesthesia. Appendectomy, herniorrhaphy, intestinal resection and anastomosis under local anesthesia. Sensitive areas within abdomen and how to deal with them. Nontoxicity of procain. Adrenalin, quinin and urea unnecessary, doing away with skin or tissue necrosis. Advantages of combined hyoscin-morphin narcosis. The Farr pneumatic injector an improvement over syringes.

Discussion opened by JACOB A. RUBEN, Pittsburgh.

No. 5.

Streptococcic Empyema.
J. STEWART RODMAN, Philadelphia.

OUTLINE. Empyema; paper based on army experience with streptococcic empyema; virulence of infecting organism; pathological characteristics; diagnosis; surgical management.

Discussion opened by WALTER A. DEARTH, Pittsburgh.

No. 6.

Intussusception with a Report of an Unusual Case.
STEPHEN E. TRACY, Philadelphia.

OUTLINE. General consideration; difficulty of diagnosis in many cases; treatment; time operation should be performed. Mortality; means by which the high mortality can be lessened.

Discussion opened by GEORGE B. KUNKEL, Harrisburg.

No. 7.

Pulse Pressure in Traumatic Cerebral Compression.
HARRY M. ARMITAGE, Chester.

OUTLINE. Value of systolic pressure considered under its component parts: Pulse pressure most important of the three; types of pulse pressure. In severe fractures of the base with widespread hemorrhage, blood-pressure symptoms valueless, but other symptoms are pronounced, bleeding occurring from nose, mouth and ears. Where local symptoms suggest blood clot or a depressed fracture pressing on the brain as evidenced by roentgen ray, palpation or paralysis, the general symptoms may be of little value, especially if the medulla is not involved by pressure. Operation only rational treatment. High pulse pressure in cases with choked disc, headache, disturbed sensorium, coma, increased pressure of cerebrospinal fluid as registered by spinal mercurial manometer and slow pulse. Systolic pressure too uncertain a factor to be of value in diagnosing amount of pressure. Decision as to trephining should be determined after grave reflection and consideration of entire group of symptoms, but in all cases of head injury frequent estimations of pulse pressure should be made. Issue unmistakable. Subject presents itself as a clean-cut fact. Increasing pulse pressure and a falling pulse indicate an operation without delay.

Discussion opened by LYNDON H. LANDON, Pittsburgh.

WEDNESDAY, SEPTEMBER 24, 2 P. M.

Report of Executive Committee.

Election of Officers.

No. 8.

Self-Retaining Slide Bone Graft.
HARRY C. MASLAND, Philadelphia.

OUTLINE. Power-driven bone instruments that do not devitalize the bone give quicker and more refined execution of plastic procedure. Reconstructive bone surgery is most successful where greatest degree of coaptation of bone is secured and vitality of bone surface osteoblasts is preserved. Autogenous and heterogenous bone-plating useful, particularly in fresh fractures. Slide grafts have a wider range of usefulness. Where self-retaining slide graft can be made, results secured much better than by other methods: goal to be attained is contact approximation of fractured ends. Such contact is maintained by slide graft rigidly held by bone screws against its grove in the bone. Screws are made from shorter piece of bone graft removed. Absolute asepsis imperative. A definite technic should be carefully planned and contemplated steps of operation so coordinated that greatest economy of time is secured.

Discussion opened by WALTER LATHROP, Hazleton.

SYMPOSIUM ON GOITER.

No. 9.

The Indications for Thyroidectomy.
HENRY S. PLUMMER, Rochester, Minn.

OUTLINE. Classification of goiters: association of hyperthyroidism with the various types. Results to be anticipated on theoretic grounds; results based on a study of postoperative history.

No. 10.

Adrenalin Hypersensitiveness as an Aid in the Diagnosis of Hyperthyroidism.
EMIL GOETSCH, Baltimore.

OUTLINE. In presence of hyperthyroidism, experimental or clinical, there is a hypersensitiveness of sympathetic nervous system to action of adrenalin hypodermically administered. The fact has been demonstrated clinically in the study of a considerable number of goiter patients. From this work an adrenalin test has been devised which will be presented; a considerable aid in diagnosis of obscure cases.

No. 11.

Principles Underlying the Treatment of Toxic Goiter.
CHARLES H. FRAZIER, Philadelphia.

Discussion on preceding three papers opened by J. M. WAINWRIGHT, Scranton; HAROLD L. FOSS, Danville, and GEORGE P. MÜLLER, Philadelphia.

No. 12.

Surgical Treatment of Cancer of the Stomach.
HARVEY F. SMITH, Harrisburg.

OUTLINE. On a symptomatic basis cancer of stomach can usually be placed in one of three groups: Cases (1) with years of previous ulcer history, (2) without previous attacks of indigestion prior to onset of malignancy, (3) irregular type. Surgically, classification can be made, based on location: (1) Operable, most of those located in pyloric third; (2) borderline when mass has extended up into middle zone of stomach; (3) inoperable, when cardiac end of stomach is involved or if there is metastasis or ascites. Gastric cancer located in pyloric third, without metastasis or involvement of cardia, is operable. Neither clinical history nor physical findings offer conclusive evidence of operability. The roentgen-ray expert can frequently determine this, as well as make an early diagnosis. Types of operation; Mayo-Pulya probably best. Operative risk varies from 10 to 25 per cent. End result largely one of prolongation of life. Early diagnosis not possible at present; hence, advisability of more frequent exploratory operations.

Discussion opened by **John B. Deaver**, Philadelphia.

Thursday, September 25, 9 a. m.

PENN-HARRIS HOTEL: BALLROOM

JOINT MEETING WITH THE SECTION ON MEDICINE.

(See Program for Section on Medicine.)

SECTION ON EYE, EAR, NOSE AND THROAT DISEASES

CAPITOL: SENATE CAUCUS ROOM

Officers of Section

Chairman—**Fielding O. Lewis**, 261 S. Seventeenth St., Philadelphia.

Secretary—**Luther C. Peter**, 1529 Spruce St., Philadelphia.

Executive Committee—**Clarence M. Harris**, Johnstown; **John F. Culp**, Harrisburg; **Edward Stieren**, Pittsburgh.

Stenographer—**Harry S. Reger**, Jamestown, N. Y.

(The Secretary of the Section will collect all papers as soon as they are read.)

Tuesday, September 23, 2 p. m.

No. 1.

Address of the Chairman.

Fielding O. Lewis, Philadelphia.

No. 2.

Cancer of the Esophagus.

Ellen J. Patterson, Pittsburgh.

Outline. Indications for esophagoscopy in all cases at earliest symptom of trouble in swallowing. Tendency to ignore the vague sensations that are the early signs of esophageal trouble and attribute them to "neurotic tendencies." Importance of fluoroscopy and roentgenoscopy preceding esophagoscopy. Diagnosis. Treatment.

Discussion opened by **Chevalier Jackson**, Philadelphia.

No. 3.

The Advantages of General Over Local Anesthesia in Tonsillectomy. **Harvey M. Becker**, Sunbury.

Outline. Greater facility of manipulating pillars with relaxed muscles and head fixed, than when muscles are in state of tension and head movable. Less danger of primary or secondary hemorrhage. Subsequent inspection of own as well as work of others, would indicate that local anesthesia operations are incomplete in probably 75 per cent. for faucial, and over 90 per cent. for pharyngeal tonsil. Shock to nervous system in children and adolescents frequently marked under local, nil under general anesthesia.

Discussion opened by **J. Leslie Davis**, Philadelphia.

No. 4.

Conservative Operation on the Nasal Accessory Sinuses, After Two Years' Experience.

John J. Sullivan, Scranton.

Outline. Experiment in diagnosis—washing of maxillary and frontal sinuses versus suction. Necessity of allowing middle turbinate to remain after exenteration of cells in frontal ethmoid operation. Recurrence after operation when middle turbinate remains; causes and treatment. Recurrence more frequent when middle turbinate is removed. Necessity in not removing even a part of inferior turbinate in maxillary operation. Experiment in making large opening above middle turbinate; below; and combined. No packing in any of foregoing operations.

Discussion opened by **Jesse S. DeMuth**, Pittsburgh.

No. 5.

Acute Otitis Media Complicating Epidemic Influenza as Observed in U. S. Army Base Hospital.

J. Clarence Keeler, Philadelphia.

Outline. Dust in and about camp an important predisposing factor of epidemic. Infection is spread, chiefly, from secretions of respiratory tract. Middle-ear infection is due to its intimate anatomical association of upper air passages. Importance of early and frequent examinations of ear, nose and throat in all acute infectious diseases, especially when accompanied by severe prostration. Methods of examination and treatment as instituted in base hospital. Treatment of the masses to check a threatened outbreak of acute infectious diseases, by spraying nose and throat with dichloramin-T, 5 per cent. in chlorcosane as practiced in camp.

Discussion opened by **Robert F. Ridpath**, Philadelphia.

No. 6.

Nose and Throat Lesions Associated with Pulmonary Tuberculosis. **H. Hershey Farnsler**, Harrisburg.

Outline. Tubercular lesions: Tuberculosis of larynx, various stages, percentage of tubercular patients having involvement of larynx, pharynx and nasopharynx. Extensive involvement of throat and mouth. Other tubercular lesions infrequently present. Nontubercular lesions: Atrophic rhinitis and pharyngitis, frequency of occurrence. Deflected septi, hypertrophied turbinates. Tonsils, hypertrophied, not enlarged but diseased and absent. Intimate relation of tonsil to lymphatic system as probable source of infection. Record of state of health of patients after removal of diseased tonsils. Tuberculophobia in nose and throat work.

Discussion opened by **Robert M. Lukens**, Philadelphia.

No. 7.

Report of Two Cases of Lung Abscess Following Tonsillectomy, Under Local Anesthesia, in Tubercular Subjects.

John R. Simpson and **Harry G. Noah**, Pittsburgh.

Outline. Review of literature. Attempt to show emboli and not aspirated material are cause of abscesses in these cases, and many of those reported by others. Conclusion.

Discussion opened by **P. Samuel Stout**, Philadelphia.

Wednesday, September 24, 2 p. m.

Report of Executive Committee.

Election of Officers.

No. 8.

Vaccine Therapy in Ocular Diseases.

Mary Buchanan, Philadelphia.

Outline. Vaccines a valuable aid in deep as well as superficial eye diseases. Uveitis, iridocyclitis, hordeolum, ulcerative blepharitis, chronic dacryocystitis, gonorrheal ophthalmia, including ophthalmia neonatorum. Report of cases.

Discussion opened by **S. Lewis Ziegler**, Philadelphia.

No. 9.

Corneal Diseases of Tubercular Origin, Its Diagnosis and Treatment.

Edwin B. Miller, Philadelphia.

Outline. Four types of keratitis in which tubercular toxins are responsible: Phlyctenular, parenchymatous, migratory or fascicular, and sclerosing. Stimulation of more careful research. Increasing tendency in literature to accept the tubercular etiology; von Pirquet test repeated and followed by diagnostic injections of tuberculin often brings about reactions in eye, and even in area of previous von Pirquet test presenting a negative reaction; many more cases reveal a positive Wassermann often presenting added tubercular infection as shown by tuberculin tests, these cases dragging along until tuberculin is used, and then speedily clearing up; careless methods of administering tuberculin often responsible for apparently unfavorable result; while careful sliding-dose method readily borne by patient, produces no reaction, no apparent discomfort, and yields marvelous results in short time.

Discussion opened by J. Milton Griscom, Philadelphia.

No. 10.

Etiology of Sympathetic Ophthalmia.

William Zentmayer, Philadelphia.

Outline. Older views must be discarded in light of present knowledge of bacteriology, serology and histology. Consideration of later theories concerning pathogenesis, including Römer's, Pusey's and Elschnig's. Apparent corroboration of Elschnig's theory by investigations of Wood's and clinical experience of Harbridge, Knapp and others. Newer views of the pathologic anatomy of the disease. What the war has taught concerning prophylaxis and prognosis. Importance of asepsis and protection of the wound. Treatment of the developed disease.

Discussion opened by William W. Blair, Pittsburgh.

No. 11.

Modern Treatment of Corneal Ulcers.

Otto C. Reiche, Hazleton.

Discussion opened by John F. Klinedinst, York.

No. 12.

Cycloplegic Refraction.

Frederick C. Stahlman, Charleroi.

Outline. Refractions under 40 to 45 years of age should be carefully done with cycloplegics with the following exceptions: High myopes who test satisfactorily and are decided in their readings; hyperopes who complain of nothing by blurring of type, indicating weak ciliary muscles. Hyperopes from 40 to 45 may be manifested, but if unsatisfactory use drops to get distant vision accurately before adding presbyopic correction. Relative value of cycloplegics and how to get best results. Value of carefully manifesting and muscle tests.

Discussion opened by Clarence M. Harris, Johnstown.

No. 13.

Muscular Imbalance and Its Relation to Eye Strain.

Frank N. Emmert, Chambersburg.

Outline. How muscular imbalance accentuates and brings out other defects. How by correcting visual defects one apparently gets rid of the muscular ones. Why correction of muscular defects with prisms is so unsatisfactory. Why graduated tenotomies have not proved popular and successful with the profession as a whole.

Discussion opened by Edward A. Weisser, Pittsburgh.

No. 14.

Traumatic Cataract.

J. Walter Park, Harrisburg.

Outline. Etiology: Flying bodies, sharp and pointed, toy shot-guns, projections and blows; rapidity of development depends on character of injury. Prognosis: Unfavorable usually. Treatment: Medical—remove foreign body if present, rest in bed, atropin, dionin, ice compresses; if iridocyclitis develops, substitute heat for cold; watch tension. Surgical—if tension with pain, operate at once; operation must be carefully selected, paracentesis, linear extraction or flap operation.

Discussion opened by Edward B. Heckel, Pittsburgh.

Thursday, September 25, 9 a. m.

No. 15.

The Fundus Oculi in War.

George H. Cross, Chester.

Outline. Study of the ocular fundi in war illustrates necessity of careful preliminary examination as shown by number of cases of doubtful origin, many manifestly existent prior to entry into service. One is impressed by the high degree of vision retained following violent damage to visual structures. Traumatic choroiditis in vast majority of cases was found associated with ruptures of choroid, both single and multiple. Of so-called "hole in the macula" of traumatic origin, six cases were observed. Proliferative retinitis in extensive area and many varying forms; optic atrophy was surprisingly rare; also detachment of retina.

Discussion opened by Hunter W. Scarlett, Philadelphia.

No. 16.

Some Otologic Problems in Aviation. (Moving Picture Demonstration.)

Lewis Fisher, Philadelphia.

Outline. Double function of inner ear, hearing and motion-sensing. An aeroplane able to maintain itself in air because of motion; hence, sensing of motion is of great importance to aviator. Flier should have a normal ear-mechanism in order not to be handicapped. Mechanism of dizziness and its importance in aviation. Moving pictures of otologic apparatus used in training aviators to disregard vertigo. Detection of staleness in aviators by an otologic examination.

Discussion opened by Watson Marshall, Pittsburgh.

No. 17.

Enucleation and Its Substitutes.

William T. Shoemaker, Philadelphia.

Outline. Indications for enucleation and brief summary of various operations. Substitute operations, which fulfil more or less the indications, while allowing eyeball or part of it to remain. Advantages and disadvantages to be considered in selecting either complete enucleation or one of substitutes in individual case.

Discussion opened by Edward Stieren, Pittsburgh.

No. 18.

Rhinoplasty and Blepharoplasty.

Thomas C. Stellwagon, Jr., Philadelphia.

Discussion opened by Charles E. Hays, Johnstown.

No. 19.

Replacement of the Mucous Membrane of the Nose and Mouth.

George M. Dorrance, Philadelphia.

Outline. An acute question in past two years, due to large number of cases at military hospitals of Allies. Method in vogue not standardized and failures too common. Reconstruction of nose and face was failing because of inability to get proper mucous lining. Buried skin graft most promising of methods used. Modification necessary, and uniform success was obtained only when proper adaptation of epithelium graft under pressure was secured. Problem of reconstructing the sulci of the mouth and alae of nose was solved by overcorrecting cavities, use of modeling compound accurately adjusted to cavity keeping epithelium graft under pressure.

Discussion opened by Major Robert H. Ivy, Washington, D. C.

No. 20.

Notes on Three Cases of Ligation of the Common Carotid Artery and Resection of the Orbital Veins in Pulsating Exophthalmus; Also the Report of Several Cases of Orbital Tumor, with Operation.

William Campbell Posey, Philadelphia.

Outline. (1) Bilateral pulsating exophthalmus with extra-ocular muscle palsies and optic atrophy, following severe fall; ligation two years after injury; rapid rise in vision with subsidence of exophthalmus, ocular palsies persisting. (2) Left pulsating exophthalmus following fall; moderate optic neuritis, some reduction of vision; ligation with injection of horse serum into orbit; cerebral softening ensued two weeks later; patient died. (3) Bilateral pulsating exophthalmus, following automobile accident; paresis right external rectus muscle; much engorgement and tortuosity of retinal blood vessels; reduction of vision in each eye; ligation with resection of orbital veins; rapid improvement and one year later ocular condition almost normal, with exception of persistence of extra-ocular muscle palsy. Treatment. Orbital tumor: (1) Fibroma of right lacrimal gland, occasioning exophthalmus; removal through orbital incision. (2) Sarcoma of orbit; removal with conservation of globe; recurrence; evisceration and fulguration. Removal of orbital growths. Kroenlein's operation and its modifications. Lantern demonstration.

Discussion opened by Edward Martin, Philadelphia.

SECTION ON PEDIATRICS

PENN-HARRIS HOTEL: PARLOR D

Officers of Section

Chairman—**Charles H. Miner**, 115 S. Franklin St., Wilkes-Barre.

Secretary—**William N. Bradley**, 1725 Pine St., Philadelphia.

Executive Committee—**Samuel McC. Hamill**, Philadelphia; **Percival J. Eaton**, Pittsburgh; **William N. Bradley**, Philadelphia.

Stenographer—Miss **Elizabeth Mortimer**, 207 P. O. Bldg., Philadelphia.

(The Secretary of the Section will collect all papers as soon as they are read.)

Tuesday, September 23, 2 p. m.

No. 1.

Address by the Chairman.

Charles H. Miner, Wilkes-Barre.

No. 2.

Child Welfare Work in Pennsylvania.

Dorothy Child, Harrisburg.

Outline. Present organization, State Department of Health. Relation of private agencies and groups of laymen to the Division of Child Hygiene. Ways in which physicians may be of assistance.

No. 3.

The Care of the Premature Baby.

Elmer L. Meyers, Wilkes-Barre.

Outline. What constitutes prematurity. First attention after birth; three fundamental principles essential: (1) Diet—mother's milk, cow's milk or other substitutes, methods and intervals of feeding; (2) heat—degree of temperature, method of applying and maintaining heat, incubators and their substitutes; (3) air—means of ventilation, draughts, sunlight, environment, noises, baths, inunctions, clothing, handling, etc.

Discussion opened by **Boyd Dodson**, Wilkes-Barre.

No. 4.

The Principles of the Treatment of Respiratory Catarrhs. **Horatio C. Wood, Jr.**, Philadelphia.

Outline. Most important element in successful treatment is that it shall be founded on a correlation of our knowledge of morbid process and action of remedies. A rational therapy may be based on etiology, pathology or symptomatology. An effort to show how a rational therapeusis of this kind may be applied to common affections of respiratory mucous membrane.

No. 5.

Practical Points in Infant Feeding.

Frederick C. Monks, Kittanning.

Outline. All babies cannot depend on mother's milk. We must substitute the best substitute, cow's milk. The best cow's milk. Infant's weight a guide for its food requirements. Caloric better than percentage rules for modification. Necessary elements and amounts. Caloric rule and its variations in normal and abnormal infants. Other methods and substitutes rarely, if ever, needed.

Discussion opened by **Percival J. Eaton**, Pittsburgh.

Wednesday, September 24, 2 p. m.

Report of Executive Committee.

Election of Officers.

No. 6.

Phlyctenular Disease and Its Cause.

H. Maxwell Langdon, Philadelphia.

Outline. Clinical types; age of onset; types of children in which it occurs. Etiology. Diagnosis. Treatment.

No. 7.

Omphalitis and Inflammatory Lesion of the Umbilical Cord Occurring During Labor, with Reference to Its Infant Mortality and Morbidity.

A. N. Creadick, New Haven, Conn. (By invitation.)

Outline. In 2,200 deliveries 42 instances of a bacterial invasion of umbilical cord occurred. Detailed microscopic pictures proved these to be due largely to a transamniotic infection. This lesion has hitherto been ascribed to syphilis. In the same series, 30 cases of undoubted syphilis did not show the lesion. Clinical courses of cases which showed lesion had two features in common; namely, prolonged labor and a premature rupture of the membrane. These cases had a pronounced infant mortality and morbidity.

No. 8. SYMPOSIUM ON EMPYEMA

Empyema in Children.

Alfred Hand, Jr., Philadelphia.

No. 9.

Bacteriology of Empyema.

Edward Steinfield, Philadelphia.

Outline. Ordinary empyema of former description, following in convalescence of a clinically typical lobar pneumonia. Streptococcic empyemas occurring together with an interstitial bronchopneumonia. Empyema following influenzal pneumonia.

No. 10.

The Ultimate Results Following Operations for Empyema Complicating Epidemic Influenza, Based on a Study of 32 Cases. (Lantern Demonstration.)

Moses Behrend, Philadelphia.

Outline. Proportion of children affected as compared to adults; latency of empyema; recurrent empyema; character of empyema. Anesthetic used, nitrous oxid gas and oxygen. Character of operation; results of operation; after treatment; mortality. Value of roentgen ray and fluoroscope.

Discussion opened by **J. Stewart Rodman**, Philadelphia.

No. 11.

Choice of and Administration of Anesthetics in Children.

Edward W. Beach, Philadelphia.

Outline. Choice of anesthetic, considering the age and physical condition together with operation, with some practical suggestions. Method of administration: Nitrous oxid, ether, chloroform, each with indications and contra-indications.

Thursday, September 25, 9 a. m.

No. 12.

Arrhythmia in Infectious Diseases in Childhood; with a Special Reference to Diphtheria.

Clifford B. Farr, Philadelphia.

Outline. Modern graphic methods of studying the pulse and its "disorders." Normal variations in rate and rhythm of pulse as observed in infancy and childhood. Influence of infection and toxemia on character of pulse as noted in recent literature. Correlations of graphic findings with clinical observations in a contagious disease hospital.

No. 13.

Diphtheria from the Public Health Standpoint.

Howard L. Hull, Harrisburg.

Outline. Brief review of statistics on diphtheria from 1906 to 1918 inclusive. Some places in Philadelphia where the disease appears to be unduly prevalent. Possible causes for continued prevalence of the disease in spite of antitoxin era. Review of certain observations in field work for State Department of Health.

Discussion on preceding two papers opened by **Samuel S. Woody**, Philadelphia.

No. 14.

The Operations We Have Found Most Satisfactory in the Orthopedic Department of the University of Pennsylvania.

Walter G. Elmer, Philadelphia.

Discussion opened by **DeForest P. Willard**, Philadelphia.

No. 15.

Foot Prophylaxis in Childhood.

J. Torrance Rugh, Philadelphia.

Outline. Common congenital deficiencies predisposing to deformity. Influences of foot covering. Short socks. Faulty shoes. Improper station. Methods of prevention and correction.

Discussion opened by **David Silver**, Pittsburgh.

No. 16.

Acute General Peritonitis in Children, with Report of a Case.
Fred E. Ross, Erie.

No. 17.

Home Infections.
Charles W. Youngman, Williamsport.

Outline. Our knowledge of infection not used. Duty of physicians to impart their knowledge. Duty of Public Health Service. Duty of household.

TENTATIVE PROGRAM—SECRETARIES' CONFERENCE

Harrisburg, Tuesday, Sept. 23, 1919, 5 p. m.

Chairman—Myers W. Horner, Mt. Pleasant.

Vice Chairman—Norman C. Mills, Eleanor.

Secretary—Joseph Scattergood, West Chester.

Executive Committee—Malcolm C. Guthrie, Wilkes-Barre; Jacob A. Trexler, Lehighton; Herbert L. McKown, Tunkhannock.

Why the Annual Assessment Must Be Increased.
J. B. F. Wyant, *Kittanning.*

Discussed by Ira G. Shoemaker, Reading.

Qualifications for Membership.
J. N. Hunsberger, Norristown.

Disscussed by William A. Womer, New Castle.

Responsibility for Membership's Ethics.
William H. Mayer, Pittsburgh.

Discussed by J. Morton Boice, Philadelphia.

The above papers to be discussed by C. L. Stevens, Athens, and H. W. Albertson, Scranton.

TYPES OF PUBLIC WELFARE LEGISLATION WORTHY OF OUR SPONSORSHIP

Preventitive Medicine.
Commissioner Martin, State Department of Health, Harrisburg.

Public Welfare Insurance.
John B. McAlister, Harrisburg.

Public Health Associations.
President Frankel, Metropolitan Life Insurance Company, New York.

Legislative Possibilities.
Frederick L. Van Sickle, Olyphant.

California's Plan.
Walter F. Donaldson, Pittsburgh.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1919, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Chlorcosane (McNeil).—A brand of chlorcosane containing from 35 to 40 per cent. of chlorine in stable (nonactive) combination. (For a discussion of the properties and uses of chlorcosane see New and Nonofficial Remedies, 1919, p. 137.) Robert McNeil, Philadelphia.

Dichloramine-T (McNeil).—A brand of dichloramine-T complying with the N. N. R. standards. (For a discussion of the actions, uses and dosage of dichloramine-T, see New and Nonofficial Remedies, 1919, p. 138.) Robert McNeil, Philadelphia.

Pituitary Solution-Abbott.—Liquor Hypophysis U. S. P. A sterilized solution of the water soluble extract of the posterior portion of the pituitary glands of cattle. It is standardized by the method of Roth. (For a discussion of the actions and uses of pituitary preparations, see New and Nonofficial Remedies, 1919, p. 204.) The Abbott Laboratories, Chicago.

Ampules Pituitary Solution-Abbott, 0.5 Cc.—Each ampule contains 0.5 Cc. pituitary solution-Abbott. The Abbott Laboratories, Chicago.

Ampules Pituitary Solution-Abbott, 1 Cc.—Each ampule contains 1 Cc. pituitary solution-Abbott. The Abbott Laboratories, Chicago.

Pituitary Extract-Lederle.—A sterile solution containing the active principles of posterior lobe of the pituitary body. It is standardized by the method of Roth and has the strength of Liquor Hypophysis, U. S. P. (For a discussion of the actions and uses of pituitary preparations, see New and Nonofficial Remedies, 1919, p. 204.) Lederle Antitoxin Laboratories, New York.

Ampules Pituitary Extract-Lederle, 0.5 Cc.—Each ampule contains 0.5 Cc. pituitary extract-Lederle. Lederle Antitoxin Laboratories, New York.

Ampules Pituitary Extract-Lederle, 1 Cc.—Each ampule contains 1 Cc. pituitary extract-Lederle. Lederle Antitoxin Laboratories, New York.

Antidysenteric Serum (Polyvalent)-Lederle.—(For a description of Antidysenteric Serum, see New and Nonofficial Remedies, 1919, p. 269, and for Antidysenteric Serum-Lederle, see *The Journal A. M. A.*, April 14, 1919, p. 1136.) It is also marketed in syringes containing 50 Cc. each, with sterile needle. Lederle Antitoxin Laboratories, New York.

Streptococcus Vaccine (Polyvalent)-Lederle.—(For a description of Streptococcus Vaccine, see New and Nonofficial Remedies, 1919, p. 291 and for other Lederle preprations see *The Journal A. M. A.*, April 19, 1919, p. 1136.) It is also marketed in 10 Cc. and 20 Cc. vials; in packages of four 1-Cc. vials containing, respectively, 50, 100, 200 and 400 million killed streptococci; and in packages of four syringes containing, respectively, 50, 100, 200 and 400 million killed streptococci. Lederle Antitoxin Laboratories, New York (*Jour. A. M. A.*, July 5, 1919, p. 35).

Tuberculin "O. T." (Lederle).—Old Tuberculin (see New and Nonofficial Remedies, 1919, p. 277). Marketed in packages containing a stated amount of tuberculin and sufficient diluent to make 1 Cc. as follows: Dilution A containing 0.1 Cc., Dilution B containing 0.01 Cc., Dilution C containing 0.001 Cc., Dilution D containing 0.0001 Cc., Dilution E containing 0.00001 Cc., Dilution F containing 0.000001 Cc. Lederle Antitoxin Laboratories, New York.

Tuberculin "B. E." (Lederle).—In addition to the forms previously described, New Tuberculin "B. E." (see New and Nonofficial Remedies, 1919, p. 280 and N. N. R. supplement p. 10) is also marketed in packages containing a stated amount of tuberculin with sufficient diluent to make 1 Cc. as follows: Dilution A containing 0.1 Cc., Dilution B containing 0.01 Cc., Dilution C containing 0.001 Cc., Dilution D containing 0.0001 Cc., Dilution E containing 0.00001 Cc., Dilution F containing 0.000001 Cc. Lederle Antitoxin Laboratories, New York.

Tuberculin "B. F." (Lederle).—In addition to the forms previously described, Tuberculin "B. F." (see New and Nonofficial Remedies, 1919, p. 280 and N. N. R. supplement p. 10) is also marketed in packages containing a stated amount of tuberculin with sufficient diluent to make 1 Cc. as follows: Dilution A containing 0.1 Cc., Dilution B containing 0.01 Cc., Dilution C containing 0.001 Cc., Dilution D containing 0.0001 Cc., Dilution E containing 0.00001 Cc., Dilution F containing 0.000001 Cc. Lederle Antitoxin Laboratories, New York (*Jour. A. M. A.*, July 12, 1919, p. 105).

PROPAGANDA FOR REFORM

Partola.—A physician reports that a patient taking Partola as a blood purifier is now in a rundown condition with discoloration of the skin and a craving for the drug and that another patient took three tablets before going to bed, developed cramps and aborted the next day in her third month of pregnancy. Analysis indicated Partola to be tablets containing 2.64 grains phenolphthalein per tablet, sugar, starch and oil of peppermint (*Jour. A. M. A.*, July 5, 1919, p. 55).

Commercial Therapeutics.—The Merrell Proteogens present another attempt to foist on the medical profession a series of essentially secret preparations whose therapeutic value has not been scientifically demonstrated. It is the old story of exploiting physicians through commercial pseudoscience, of trading on the credulity of the profession to the detriment of the public. Sir William Osler says the remedy against the commercial deomination of therapeutics is obvious. "Give our students a first hand acquaintance with disease, and give them a thorough practical knowledge of the great drugs, and we will send out independent, clear-headed, cautious practitioners who will do their own thinking and be no longer at the mercy of the meretricious literature, which has sapped our independence." Excellent! But must humanity wait a generation? Why not stop this evil at once? The American Medical Association has provided the means whereby this may be done, if physicians will only make use of it—The Council on Phrrmacy and Chemistry (*Jour. A. M. A.*, July 12, 1919, p. 109).

Tyree's Antiseptic Powder.—An advertisement appearing in the New York *Medical Record* contains a bacteriologic report on Tyree's Antiseptic Powder by W. M. Gray, M.D., Microscopist, Army Medical Museum, and Pathologist to Providence Hospital. Every person who sees this advertisement and is not familiar with the facts will naturally suppose that this report, written on the stationery of the Surgeon-General's Office, War Department, is a recent report. As a matter of fact, the report was issued Jan. 3, 1890, nearly thirty years ago. Furthermore, the product that Dr. Gray examined was a different substance from the present Tyree's Antiseptic Powder. All these facts were brought out in *The Journal A. M. A.*, May 17, 1919, yet the *Medical Record* persists in publishing this inherently dishonest advertisement without explanations or apology (*Jour. A. M. A.*, July 12, 1919, p. 129).

Protecting the Sick Soldiers.—The Council on Pharmacy and Chemistry, aided by the A. M. A. Chemical Laboratory, did a great work in investigating and passing on the many medicinal products offered to the Surgeon-General for the treatment of the sick soldiers in the hospitals and in the field. Fakes of every description were offered the government and it is a well known fact that no matter how fraudulent, how fakish, or how ridiculous the wares might be, their promoters were able to get political influence, even certain congressmen and senators being secured to help them. Automatically all medicinal preparations offered to the Surgeon-General were referred to the Council and thus many worthless preparations were barred from use by the government. It has been well said that our soldiers were better protected than our civilians; for while the government does not take any chances on the acceptance of useless if not worthless medicinal preparations, yet there are any number of doctors who fail to profit by the findings of the Council on Pharmacy and Chemistry (*Jour. Ind. State Med. Assn.*, July 15, 1919, p. 196).

Proteogens of the William S. Merrell Company.—The Council on Pharmacy and Chemistry reports that Proteogen No. 1 (Plantex) for Cancer, Proteogen No. 2 for Rheumatism, Proteogen No. 3 for Tuberculosis, Proteogen No. 4 for Hay Fever and Bronchial Asthma, Proteogen No. 5 for Dermatosis, Proteogen No. 6 for Chlorosis, Proteogen No. 7 for Secondary Anemia, Proteogen No. 8 for Pernicious Anemia, Proteogen No. 9 for Goiter, Proteogen No. 10 for Syphilis, Proteogen No. 11 for Gonorrhea, and Proteogen No. 12 for Influenza and Penumonia are inadmissible to New and Nonofficial Remedies because their composition is secret; because the therapeutic claims made for them are unwarranted; and because the secrecy and complexity of their composition make the use of these preparations irrational. The Proteogens are said to be prepared "under the personal supervision of the originator, Dr. A. S. Horowitz," who also originated Autolysin (an alleged cancer remedy, exploited some years ago). At one time the advertising for Proteogen No. 1 (Plantex) gave the impression that this was essentially the same as Autolysin. A study of the medical literature revealed no evidence establishing the value of the Proteogens; in fect, no evidence was found other than that appearing in the advertiseming matter of the manufacturer. The range of diseases in which Proteogens are recommended is so wide as to make obvious the lack of scientific judgment which characterizes their exploitation. Considering the grave nature of the diseases for which Proteogens are recommended, the want of a rational basis for the method of treatment and the general tenor of the advertising, it appears safe to conclude that these agents do not represent any definite advance in therapeutics (*Jour. A. M. A.*, July 12, 1919, p. 128).

Dr. De Sanctis' Gout Pills.—The American agent for these pills is E. Fougera and Co., Inc. When examined in the A. M. A. Chemical Laboratory they were found to contain powdered colchicum seed, benzoic acid and milk sugar. There was also present fatty material which resembled the fat of colchicum seed, but might be in part added fatty acid. It was concluded that De Sanctis' pills are essentially 5 grain doses of colchicum seed. Here, then, we have sold for self-medication, an extremely poisonous drug with no warning of the risk the public runs in using it (*Jour. A. M. A.*, July 19, 1919, p. 213).

Dr. Miles' Heart Treatment.—According to the Miles Medicine Company this is "a strengthening regulator and tonic for the weak heart." No information regarding the composition of Miles' Heart Treatment is vouchsafed by the manufacturer beyond the statement of the alcohol content (11 per cent.) as required by the law. However, quotations in the advertising suggest that the preparation contains digitalis and cactus. To determine the presence or absence of digitalis in Miles' Heart Treatment, physiologic tests were made. The question as to the presence of cactus was not considered of interest because cactus grandiflorus has been shown to have no physiologic action. The physiologic tests indicated that there were no digitalis bodies present in the preparation (in amounts that could have any therapeutic effects) in doses containing enough alcohol to induce narcosis. Examination in the A. M. A. Chemical Laboratory showed Miles' Heart Treatment to be a solution of a compound or compounds of iron representing about 0.12 gm. metallic iron in 100 c.c. A solution of iron glycerophosphate in 10 per cent. alcohol, with about 5 per cent. glycerin, and a little sugar or glucose had much the same chemical properties as Miles' Heart Treatment (*Jour. A. M. A.*, July 26, 1919, p. 287).

THE PENNSYLVANIA MEDICAL JOURNAL

Official Organ of the Medical Society of the State of Pennsylvania

VOLUME XXII
NUMBER 12

CHICAGO, ILL., AND ATHENS, PA., SEPTEMBER, 1919.

SUBSCRIPTION:
$2.00 PER YEAR

ADDRESS

THE PROGRESS OF MEDICINE IN THE TWENTIETH CENTURY *

MAJOR-GENERAL MERRITTE W. IRELAND
SURGEON-GENERAL OF THE U. S. ARMY

We are just completing the second decade of the twentieth century. In this short period of time some very remarkable advances have been made in scientific medicine and surgery, with most of which you are doubtless familiar and with which you will have to deal in your daily experiences as an active practitioner.

As you know, the most striking characteristic of the medicine of the period in which we are living, the twentieth century, is that in relation to what the French call "grave diseases," or in other words, specific infectious diseases, we are beginning to attach greater importance, where we can, to prevention rather than to treatment.

In the second place, nearly all branches of sciences, including the medical sciences, are becoming experimental or going sciences rather than dry, descriptive sciences, as they used to be. To illustrate, we know that malarial fever and yellow fever are transmitted by different species of mosquitoes; that typhus fever and trench fever are transmitted by lice; yet we do not know the actual cause of yellow fever or of trench fever. If we can then prevent yellow fever, typhus fever and trench fever by destroying the insects which transmit them, it is plain that we need concern ourselves little about the organism which causes these diseases.

In antiquity, physicians had to content themselves with describing the disease before them. They could do little for prevention or treatment. Today, the energies of all who follow medicine as an applied science are centered on discovering by experiment, some relation which will enable them to prevent or treat a particular disease.

The older medicine was analogous to certain other descriptive sciences, such as mineralogy, botany or geology. At first sight, mineralogy might seem a dead, descriptive science in which nearly all the facts have been assembled and preserved in cut and dried form. But as a matter of fact, through the application of physical chemistry, mineralogists are now actually making, by experimental processes, rocks, cements, and even precious stones. The progress of medicine in the twentieth century has been almost entirely along these lines. It is an attempt to get answers from nature by experiment and to imitate nature in applying the knowledge thus gained.

What are some of the important advances made in the last two decades? I will mention a few:

1898: All the essential facts showing that malarial fever is transmitted by the Anopheles mosquito were ascertained and proven by Sir Ronald Ross.

1898-9: Walter Reed, Vaughan and Shakespeare showed that typhoid fever may be transmitted by contact and, in a certain percentage of cases, by flies.

At the very beginning of the twentieth century Reed, Carroll, Lazear and Agramonte demonstrated that yellow fever is transmitted by the Stegomyia mosquito.

1900: Ashford discovered the presence of hookworm infection in Porto Rico.

1901: Dutton discovered the parasite of sleeping sickness.

1902: The American parasite of the hookworm infection was described by Stiles.

1903: Bruce showed that sleeping sickness is transmitted by the tsetse fly. In the same year Metchnikoff inoculated the higher apes with syphilis.

1904: Dutton discovered the parasite of African relapsing fever.

1904: Loos demonstrated the mode of transmission of hookworm infection.

1905: Schaudin discovered the parasite of syphilis.

1906. Wassermann introduced his famous test for syphilis which was modified by Noguchi in 1911.

1907: H. G. Novy discovered the parasite of the American variety of relapsing fever.

1908: Harvey Cushing produced the condition of infantilism experimentally in the dog, in other words made an adult dog revert to an infantile condition. This reversability of one of the greatest processes of nature is something which Lord Kelvin in 1892 declared to be impossible.

1910: Nicolle proved that typhus fever is transmitted by the body louse. In the same year Flexner produced poliomyelitis experimentally and R. G. Harrison demonstrated the growth of nerve fibers in an extra-vital culture.

1911: Rous proved that sarcoma can be transmitted by a filterable virus and Bass cultivated the malarial plasmodium artificially.

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* Address delivered at the Ninety-Fourth Annual Commencement Exercises of the Jefferson Medical College of Philadelphia, June 7, 1919.

These few instances will serve to indicate what an immense advance has been made in experimental medicine in recent times. During the last five years, this steady advance has been interrupted by the most tremendous war which the world has ever known, the effects of which have been felt in the remotest parts of the earth, even by the caravans which transport drugs across the deserts of Asia and Africa. Yet in spite of this war, or indeed through it, certain benefits have accrued which the medical profession of the immediate future is in position to utilize if it will.

During the war period the Army Medical Department, which had 447 regular officers and 1,600 reserve officers prior to April 6, 1917, increased to nearly 35,000, or over seventeen fold. The Naval medical establishment increased from 515 officers to 3,000, or six fold. Now a majority of these physicians have been thrown into new relations of life, whether in army camps, laboratory or clinic, or in duty at the front, and from these new avocations, as the best of them have testified, they have gained new knowledge as to ways and means of medical administration, which they will apply in their hospital and community work.

Aside from this, some very important advances have been made in experimental and professional medicine through this war. We know more about the different war neuroses which go under the name of shell shock, about those effects of gunshot wounds of peripheral nerves which Mitchell, Moorehouse and Keen first described during the Civil War, about functional heart disease, about the toxic and parasitic jaundices. The various pneumonias attacking men in our army camps have been investigated by McCallum and Cole, and Cole has differentiated no less than four different pneumonia-producing organisms. Better control of the pneumonia problem is in sight. New modes of disease, such as trench nephritis, trench fever, and the five-day fever of the Eastern front, have created new problems. The transmission of trench fever by lice has been proven. The effects of poisonous gases on the lungs, eyes, skin and other parts of the body constitute almost a new department of medicine, as do also the physical and pathological effects of aviation. Vaccines have been administered simultaneously for several diseases, sometimes five at a time. Much has been done in reconstructive surgery of the chest, wound shock and wound treatment. The surgeon has gained an experience in wound-infection, which never could have been acquired in civil practice. The new antiseptics devised by Dakin and Carrel can now be tried out in city hospitals. A new surgical principle has been evolved, namely, excision of devitalized tissues in wounds made by large missiles.

It is perfectly apparent that my time will not permit me to describe the different advances which have been made during the last twenty years, and that is not necessary, for in your classes you have received instruction on many of these points from teachers far better able to impart information than I am. There are four or five of these discoveries, however, which are outstanding and which should receive particular attention, and I ask your indulgence while I describe them briefly.

MALARIA

This disease was known to the ancients and the lack of knowledge as to its prevention and treatment no doubt had a great deal to with the fall of the Greek and Roman civilizations.

Hippocrates described the disease and sensed its relation to enlarged spleen. Long before the age of Pericles, Greece was a mosquito-ridden country, but was free from malaria. The mosquitoes were finally infected by travelers coming to the country who had the disease and there is no doubt that the resulting rural depopulation had a great deal to do with the ultimate downfall of Greece.

Malaria also existed in Rome from of old. It was always associated in the minds of the people with marshy country and was thought to be caused by drinking polluted water or breathing the night air. They must have had a suspicion, however, that it was also connected with the mosquito, as the early writers spoke of malaria as due to the swamps, the emanations from them, and to the small living creatures in the water. The Romans employed mosquito nets. The close attention which the Roman architects paid to the construction of splendid aqueducts and drains showed their intuitive feeling about these things. It was well understood even at this time that complete drainage will cause malarial fever to disappear.

The first writers on malaria had an idea that it was due to small organisms circulating in the blood and some believed the disease was caused by the bite of a mosquito. As early as 1848 Knott expressed his belief that both yellow fever and malaria were caused by the bite of the mosquito, and this theory was reiterated by later writers.

A great step in advance was made when a French army surgeon, Laveran, working in Algeria in 1880, discovered the parasite of malaria in the blood of an infected individual. A short time afterwards he described its three different forms. This discovery gave an impetus to investigations to determine the method by which the parasite is introduced into the circulation.

Various investigators, too numerous to mention, worked on the mosquito theory, but it was to fall to the genius of another army surgeon, Col. Ronald Ross, of the Royal Army Medical Corps, to demonstrate, in August, 1897, the malarial parasite in the stomach of the Anopheles mosquito. Having shown that this species of mosquito carries the malarial parasite, it was very easy to prove that this insect transmits malaria to man and that the Anopheles is the only mosquito which carries malarial infection.

The next step was the control of malaria by protecting communities from mosquitoes. This Ross was able to do in 1899, on the west coast of Africa, where he established for the first time the fundamental principles of the prevention of tropical malaria by the treatment of stagnant pools which were breeding places for Anopheles, careful drainage of the soil, screening buildings with wire gauze, isolation of the sick, and the habitual employment of mosquito nets by individuals. After this practical demonstration, which was under the supervision of the Liverpool School of Tropical Medicine, the fight against malaria became world wide.

The crowning event of Ross' campaign was carried on at Ismailia, a town with a population of 6,000, where for the first time governmental assistance was given to a campaign against malaria. In 1900, this town had 2,250 cases of malaria; in 1902, when Ross began his work, it had 1,548 cases; in 1905, it had only 37 cases and nearly all of these were relapses of previous infections.

Since this time the strides in the control of malaria have been tremendous. In the fight against yellow fever in Cuba, the malarial incidence was reduced to a negligible quantity by the antimosquito measures, and on the Isthmus of Panama the incidence of pernicious malarial fever, which had been such a great factor in preventing the building of the Panama Canal, was greatly reduced by eliminating the mosquito and protecting the inhabitants by careful screening. Public education on this subject has become so extensive that it is now considered a stigma on any community to have a large malarial morbidity.

YELLOW FEVER

No reliable account of this disease was published until the middle of the seventeenth century. Previously it had been vaguely known as *calentura, vomito negro* (black vomit), "Yellow Jack," "Bronze John," etc.

It appeared in Guadaloupe in 1635. It first appeared in Cuba in 1648-1649; in Jamaica in 1675; in Vera Cruz in 1699; in Europe (Spain) in 1700. It first appeared in New York in 1668; in Boston in 1691-1693; in Charleston, 1699.

From the time of its first appearance in the United States we have had ninety great epidemics of yellow fever. No less than six epidemics occurred in the city of Philadelphia between 1797 and 1805. The epidemic in the United States which is outstanding even in our memory, is the one of 1878, which was widespread and gave a dreadful mortality. In this epidemic 74,000 cases were reported, with a mortality of 15,934. Four thousand six hundred people died of this disease in New Orleans during this epidemic and 5,000 at Memphis, Tenn.

During all these years the profession was at a complete loss as to the cause of yellow fever and its method of prevention. It was supposed to be a locality infection and could probably be controlled by sanitary measures. It was known to return at the beginning of hot weather and to disappear with the first frost. So helpless did a community feel when an epidemic started that many of the cities in the South were practically evacuated as soon as the first case appeared in the spring. At several of our military posts located in the yellow fever district the command was removed to northern cities at the beginning of hot weather and was not returned in the fall until it was announced that yellow fever had disappeared.

This was the condition of affairs at the beginning of the Santiago campaign. When our troops landed in Cuba, we were told that there had been no yellow fever in Santiago Province for a considerable length of time, and an authority on yellow fever, after personal investigation, assured us that the disease had not existed at Siboney for three years. In a very short time after landing in Cuba the Fifth Army Corps was very much embarrassed by the appearance of yellow fever in the command and the troops in the vicinity of Santiago suffered very severely until the advent of cold weather. The command which eventually occupied the northern part of Cuba suffered in the same way. Tremendous efforts were made to improve the sanitary conditions surrounding our troops and of the cities they occupied, but yellow fever continued without abatement. The commanding general of our forces had lost half of his personal staff when it was decided to undertake an investigation of the cause of this disease.

The manner in which the mode of transmission of yellow fever was discovered is one of the most fascinating episodes in medical history. At the request of Surgeon General Sternberg of the army a board was convened, consisting of Major Walter Reed, James Carroll, Lazear and Agramonte, to proceed to Cuba to study the infectious diseases of the country, but more especially yellow fever.

The first duty was to ascertain whether the *Bacillus icteroides* of Sanarelli was the cause of yellow fever or not. This was disproved in a very short time. Walter Reed then took up the question of the mosquito theory of the transmission of the disease, which had been advocated by Carlos Finley of Havana since 1881. This great man had contended during all these years that yellow fever is transmitted by a certain species of mosquito, but had never been able to demonstrate his theory to the satisfaction of the scientific world. Walter Reed obtained from Carlos Finley the mosquitoes with which he experimented and, through most painstaking and thoroughly scientific investigation, proved in a very short time that yellow fever is not transmitted by any of the methods which had been advocated during many years. He particularly proved that it is not a locality infection and is not transmitted by infected articles. He did prove, however, that the disease is transmitted by the Stegomyia mosquito, which becomes capable of transmitting the disease twelve days after it has bitten a patient suffering with yellow fever during the first three days of the disease. In other words, the causative agent of yellow fever has to go through a cycle of development within the mosquito, which takes approximately twelve days before the bite of the infected mosquito will produce the disease.

The important conclusions of the Walter Reed Board were: 1. The Stegomyia mosquito serves as an intermediate host for the parasite of yellow fever, which is transmitted to the nonimmune by the bite of mosquitoes which have previously fed on the blood of patients. 2. The parasite must have remained in the body of the mosquito about twelve days from its entry before it can produce the disease. 3. Yellow fever can only be produced by subcutaneous injection of blood taken from the patient during the first and second days of this disease.

As soon as this discovery was known, the control of yellow fever became a comparatively simple matter. The health officer at Havana, Cuba, began his campaign against the Stegomyia mosquito in February, 1901, and within an incredibly short time the incidence of yellow fever began to decrease. During the hot months of the spring and summer of 1901, when yellow fever would have been on the increase in Havana, it was rapidly diminishing. The last case appeared in September, 1901. This was the first time the island had been free from yellow fever since the disease first appeared in 1648-1649.

The discovery of the mode of transmission of yellow fever and the quick demonstration that the Stegomyia mosquito could be reduced in a locality below the danger point in a very short time were of tremendous importance to the western hemisphere. This disease was endemic in many countries. Its annual death toll was tremendous and the interference with commerce yearly on account of quarantine laws amounted to untold millions. It could be foreseen at once that yellow fever would become a negligible quantity in the commerce of the world and that the time had passed when the United States, from New York south, should be subjected to a yearly quarantine on account of this disease.

The same methods of sanitation were applied in other epidemic areas with equal success. Eventually these methods were applied on the Isthmus of Panama, making it possible for the engineers to carry out the great work of constructing the Panama Canal which had always been a failure before, on account of yellow fever and pernicious malaria.

The discovery of Walter Reed is one of the proud accomplishments of the medical profession which will live in history.

TYPHOID FEVER

Typhoid fever has no doubt been prevalent for many centuries. Its distribution is almost world-wide. In countries such as the Philippines, where it was claimed that typhoid did not exist, the claim was due to a lack of recognition of the disease. The first written account we have of typhoid fever was by Thomas William, an English physician, who in 1643 described the havoc played by the disease in the British army and in cities occupied by the army in the Civil War of 1642-1646.

For many years, in fact until 1837, typhoid fever was not differentiated from typhus fever. There was a general belief that it was transmitted by drinking water on account of the explosive epidemics which occurred from time to time, such as the Butler and Johnstown epidemics, when the drinking water of a community became infected. It was one of the intestinal diseases which caused such dreadful morbidity in our armies.

In the Civil War we had 80,000 recognized cases and 29,000 deaths in the northern army. As this gave a mortality of more than 36 per cent. we can easily believe that about three times that number of cases occurred, the other cases being diagnosed as malarial fever or Chickahominy fever. In the Franco-Prussian War there were 73,396 cases and 8,789 deaths; in fact 60 per cent. of the morbidity from disease in this war was due to typhoid fever. In the Spanish-American War we had 20,736 cases and 1,580 deaths in our small army. In the Boer War the British had 31,000 cases with 5,877 deaths.

When typhoid invaded our camps in 1898, a board of medical officers, consisting of Major Walter Reed, Major Victor C. Vaughan and Major E. C. Shakespeare, was convened to study the cause of the wide prevalence of this disease. This board visited the camps throughout the country and made a careful study of the disease as it occurred in the various organizations. This survey was probably the most searching ever conducted in reference to any disease. The Reed, Vaughan and Shakespeare report was one of the most illuminating medical documents ever published in the United States. The conclusion of the board was that drinking water is not the principal medium in transmitting typhoid fever, but that the disease is conveyed by contact and in many instances by the common house fly. This work was an inspiration for further study of the methods of transmission of typhoid fever and its prevention, and prepared the world for the laboratory findings which were to give us control of this dreadful scourge.

From 1886, work had been done on protection against typhoid fever by immunization, but it was not until 1898 that vaccination was made on anything like a considerable scale. In this year 4,000 men of the British army were immunized with typhoid serum. On the outbreak of the Boer War something like 100,000 soldiers were vaccinated against the disease. Due, however, to the fact that immunization was voluntary, to the unfortunate talk against the negative phase, and to the virulent epidemic of typhoid fever which prevailed in the British army in South Africa, the efficacy of typhoid vaccination was doubted and the method was finally interdicted in the British army by order of the Minister of War. The next extensive use of immunization was in the German Colonial Army in the Herero Campaign. The vaccination was entirely voluntary and only about half of the command of 16,000 soldiers accepted it. The result was most encouraging. This experience might well be regarded as closing the first period of typhoid vaccination.

After the Boer War, Sir William Leishman, of the Royal Army Medical Corps, took up the study of vaccination against typhoid fever and in 1907 published the result of his work with certain units of the British troops on duty in India. While immunization was voluntary, the results were so remarkable that they attracted world-wide attention.

A representative of the Medical Department of our army, Major Frederick F. Russell, was sent to England to study typhoid immunization in the Royal Army Medical Corps laboratory. He afterwards went to Berlin to obtain the German views on this subject. Upon his return to the United States, Major Russell presented his report on protection against the disease to a specially convened board, consisting of distinguished medical reserve officers. This board recommended that immunization be adopted in the United States Army.

In the meantime Major Russell had prepared a serum and had begun immunization in the army with those who would volunteer. At first, volunteers were obtained with difficulty, but about 150 persons were immunized during 1908. This number rapidly increased until 14,000 individuals had been immunized in 1910.

When our troops were ordered to the Mexican border in 1911, the War Department directed that immunization should be compulsory with all troops going into camp. The results were most illuminating and gave an opportunity for comparison with conditions which existed in our camps in 1898.

During the Spanish-American War 10,759 troops were stationed at Jacksonville, Fla., for a time approximately equal to the period the troops were in camp at San Antonio, Texas. This command had 2,693 cases of typhoid fever with 248 deaths. The San Antonio command of 12,801 troops had two cases of typhoid fever only.

While we had been certain for some time that vaccination will protect against typhoid fever under normal camp conditions, the camp at San Antonio in 1911 was the first illustration of the absolute protection it would give. This lesson resulted in an order that typhoid immunization should thereafter be compulsory in the United States Army. This reduced the number of cases of typhoid fever in our army from 282 with 22 deaths in 1909, in an army of 84,077 men, to 27 cases and 4 deaths in 1912, in an army of 88,478 men.

During the years 1914-1915-1916, when our troops were patrolling the border and living in camps, the number of cases of typhoid fever were three, seven and eight, respectively. But it was left to the great war, through which we have just passed, to afford a positive demonstration that typhoid fever can be controlled in armies fighting under most adverse sanitary conditions. As you know, the present war was carried on in the trenches, where men were compelled to live practically underground. All the armies were immunized against typhoid fever and the number of casual cases has been a negligible quantity on the sick report.

Immunization against typhoid fever has been one of the great triumphs of medicine. While not as spectacular as the elimination of yellow fever from this hemisphere, it will have a far-reaching effect on the control of disease throughout the entire world.

TRENCH FEVER

So far is known, this war has developed at least one entirely new disease. If it is not new it has been confused prior to the war with some other disease.

Shortly after the English troops went into Flanders, a febrile condition developed among their soldiers which was not associated with any known disease. It was demonstrated to the satisfaction of all concerned that it did not belong to the typhoid or paratyphoid fevers and was not influenza. Early in 1915, British medical officers drew attention to this fever, which apparently had two periods of pyrexia, and it became a subject of earnest consideration from that time on.

The fever was at first thought to be confined to those soldiers who had been in the trenches and was therefore named "trench fever." As a general rule it was of slow onset, the symptoms being fever which lasted from five to seven days, bodily pains, and considerable prostration. Early in the disease it was noticed that many cases were associated with disordered action of the heart, which might persist for a considerable length of time. The disease is not fatal. Later the trouble was observed in men who had not been to the front, but were occupied in duties at the base. There was a distinct feeling that the disease only occurred among those who had been infested with lice and it was observed that the cleanest troops had the lowest morbidity from trench fever. In some few instances men developed the disease who allowed themselves to be bitten by lice from a soldier suffering from trench fever. The exact mode of transmission had not been definitely determined, however, as there is a distinct sentiment in the British army against using soldiers for experimental purposes.

The disease was not reported as prevalent to any great extent in the French army, but it increased in frequency in the British army until the fall of 1917, when it was number two among the diseases causing wastage in that command. As the average stay in hospital of each patient was from six to eight weeks, it can readily be understood how important it was to the Allied armies to control the disease.

With all these facts before it, the Research Society organized in the American Expeditionary Forces undertook to demonstrate the mode of transmission of trench fever. In December, 1917, a Research Committee, headed by Major Richard P. Strong, Medical Corps, U. S. Army, was appointed to undertake this experimental investigation at a stationary hospital attached to the British army, where numerous cases of trench fever were under treatment. The Commander-in-Chief, American Expeditionary Forces, was requested to authorize volunteers to be used for experimental purposes. This application was made on December 20 and approved on Dec. 22, 1917. Volunteers were asked for from the sanitary formations of the Twenty-Sixth Division, and the first organization interviewed by the chief surgeon of that division volunteered in a body. Sixty-five men were selected from the sanitary units of this division and were transferred to the stationary hospital behind the British lines, where the experiments were to be undertaken. Subsequently a few additional volunteers were obtained from Base Hospital No. 15.

The committee began its work early in 1918, just as soon as the necessary equipment could be assembled. They received most cordial cooperation from the British Medical Department and a captain of the Royal Army Medical Corps (A. D. Peacock, entomologist) was attached to the commission. The experiments were carried on under most favorable circumstances. The results of the work were corroborated by the Trench Fever Commission of the British Expeditionary Forces before they were made public.

The work of the commission was most thorough and the following important conclusions which it announced were accepted as final: 1. That trench fever is a specific, infectious disease, caused by a resistant filterable virus, which is particularly present in the plasma of the blood of patients and will produce the disease on innoculation to healthy individuals. 2. The disease is transmitted by the bite of the body louse, or it may be produced artificially by scarifying the skin and rubbing in a small amount of infected louse excrement. 3. To prevent trench fever, or limit its spread, every effort should be made to prevent infestation with lice.

No one can overestimate the importance of the findings of this commission. Trench fever was causing a tremendous loss of man power in the British command in France. The findings of the commission gave a definite plan of campaign against the disease, which, if the war had continued, would have brought brilliant results, I am sure. It was a most difficult task to keep troops at the front free from lice, but the combined efforts of all concerned would have accomplished wonders in this direction.

The work of this commission added another bright page to American medicine.

HOOKWORM DISEASE

The advent of hookworm disease as a proven cause for inefficiency for labor in warm countries forms an interesting story, as the successful treatment of that disease and its easy prevention is salvaging a large portion of energy and consequently the productivity of labor heretofore lost to parasitism.

Up to 1899 this was not known to be one of the diseases to be counted on at all in the United States. From the time of its discovery in 1838 to 1880, the worm described by Dubini in 1843, was considered not to have pathologic significance, although Griesinger had pointed out its relation to tropical chlorosis in 1866. In 1880, during the building of the St. Gothard Tunnel, Perronicito stated that the severe and fatal anemia occurring among the tunnel workers was hookworm disease. About the same time, Bozzolo discovered that large doses of thymol could be relied on to expel the worm and effect a cure. Instead of applying these discoveries to a similar anemia in the mines of France, Belgium and Germany and in certain brick fields of the latter country, the medical profession was slow to accept the facts. Some application of these truths, however, was locally made in France, Belgium and Germany, but always on a small scale.

Early in the nineties, the presence of the disease was announced in Japan, Egypt and Brazil. There were even two or three imported cases from Germany reported as medical curiosities in the United States. So far, the development of the problem had been limited to the association of the worm with miners' anemia in Europe and the academic discussion of the question in a few medical works, chiefly in tropical medicine.

In November, 1899, Col. Bailey K. Ashford, Medical Corps, U. S. Army, announced that the cause of the prevalent anemia of Porto Rico, responsible for approximately one third of the deaths annually, and for the physical inefficiency of a laboring class, to whom their employers were unable to pay more than 50 per cent. of a normal wage on this account, was hookworm infection.

At that time the deaths on the island from anemia, which had been slowly increasing from year to year, had reached about 12,000 and an examination of the country classes, irrespective of their degree of anemia, gave an average of 43 per cent. of hemoglobin.

These facts were published in April, 1900, and were followed one or two years later by the announcement that the disease not only existed in the southern states of the Union, but on such a large scale as to be responsible for most of the bodily and spiritual depression which had from time immemorial been attributed to malaria fever and climate.

The facts, as stated, interested a great philanthropist in furnishing the funds to initiate a campaign for the limitation of the ravages of this disease and the diffusion of knowledge for its prevention. Before starting this work a study was made of a campaign against the disease which had been already instituted by the Porto Rico Anemia Commission in 1904. This commission, from that date to 1911, had systematically treated the disease throughout the island, establishing in the country districts some fifty or sixty dispensaries, with the result that about 300,000 of the population of 942,000 were treated. Up to date, a half million have received this specific treatment, the total death rate for the island has fallen from 42 per 1,000 to from 20 to 22 per 1,000, and the laboring efficiency of the people has been, it is estimated by their employers, bettered by about 60 per cent. The result has been that the disappearance of the fatal anemia from the Island of Porto Rico has increased her wealth tenfold and has greatly improved the physical standard of her people.

The same results were worked out for the southern states, first by the initiative of Mr. Rockefeller through the International Health Board and later, as an outgrowth of that work, by the several states interested.

Today, the beneficent effects of this application of the medical sciences to solve a sociologic and economic problem of the first water has by this same International Health Board been extended all over the world and the same results as were first worked out in Porto Rico, have been obtained in remote Pacific islands, in Ceylon, in Java and in Brazil. In 1905, Arthur Loes, working in Egypt, showed how the parasite is transmitted through an initial lesion in the skin to the digestive tract by way of the blood channels, which gave us the scientific clue for preventing the entrance of the parasite through the skin.

The sum total of benefit received will be appreciated only when the disease has ceased to become a factor in robbing man of health and vigor for his work; but it will be a result not to be reckoned in dollars and cents alone. It will furnish a better outlook on life to people who have been not only physically below the normal but restrained in their mental development by an animal parasite.

It is estimated by Lieutenant-Colonel Lane of the Indian Medical Service that, if all of the sufferers from hookworm disease in India were treated and only 10 per cent. increase in their efficiency for labor secured, India would be richer by £30,000,000 annually.

Up to 1917 it is estimated by the International Health Board that 750,000 persons have been treated for this disease in the southern states and 20,000,000 educated in the significance of its treatment and prevention.

ORIGINAL ARTICLES

PROTECTING OUR THIRD LINE OF DEFENSE—OUR BABIES *

LIDA STEWART-COGILL, M.D., F.A.C.S.
AND
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PHILADELPHIA

One beautiful day last June, in a certain section of West Philadelphia, the sun shone down on quite an army of little children, dressed in white, carrying flags, banners and mottoes; the latter fluttering gaily in the breezes and told of work done for the Liberty Loan by these little ones. As they marched bravely and proudly along to the music of the band, endeavoring to keep step with the bigger boys and girls, they formed a beautiful and inspiring assemblage, and represented the members of the primary grades of Lea Grammar School. One thought of the many similar parades taking place in other parts of this city, other cities, other towns and other villages in this state and every state in our Union, until they represented an army of 30,000,000 children, our third line of defense, all dependent entirely on civilian population for food, clothing, education, health, training and discipline. The thought arises: Are we doing our whole duty by this army, who a few years from now will be our men and women, on whom all the burdens and responsibilities of state and nation will rest? Are they as sturdy of limb strong of heart, as they should be, with sufficient powers of resistance toward disease, stress and strain? Some writer has said that a number of poor, sickly, bottle-fed babies will be saved by great effort only to die later because of a congenital lack of powers of resistance. Have the mothers of these children been properly instructed as to their care? Or do some of them belong in that class with Anna Maria Sophia Jones, described in a poem printed in September *Model Hospital Journal.* This Anna Maria Sophia Jones, just a bundle of skin and bones, was a mother of five, two living, three dead; and always had fed her baby bread before it ever had a tooth in its head. This Anna Maria Sophia Jones always fastened her window click, for air in a bedroom made her sick.

Needless to say, if we permit such ignorance to exist on the part of the mothers, we are not doing our whole duty by the children. But fortunately America is awakening to her duty toward this most precious asset of our nation, the children; and when the true Yankee spirit is once fully aroused, it can be depended on to carry on this work with proper enthusiasm and efficiency.

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

If, by concentrated effort, we have been able in a short space of time to train such able fighting soldiers, we can by the same concentration of effort in child welfare work increase the vigor of the children of our country until they possess the qualities which produce vim, vigor and victory.

We must confess, heretofore, there has been some degree of lethargy or negligence in this work, and it looked for a time as though we were not going to profit by the bitter experiences of the foreign countries in regard to their offspring. We are greatly indebted to the Federal Children's Bureau, Washington, D. C., for helping to arouse enthusiasm on this subject by their splendidly organized efforts to celebrate our second year at war by having a children's year, the object being to interest our country in the saving of thousands of little babies who otherwise would needlessly perish. And so the slogan, "Save 100,000 Babies This Year," is ringing from coast to coast, and from the Great Lakes on the north to the Gulf on the south. Nearly every magazine has splendid articles on the importance of child welfare work, and newspapers are giving space to the activities along these lines by the different communities, and all the world seems agog—but are we physicians doing our part when statistics from the Children's Bureau read as follows:

> United States stands third highest for infant mortality rate out of thirteen civilized countries.
>
> Pennsylvania stands third highest of states.
>
> Philadelphia and Pittsburgh third and fourth highest of the larger cities with population over 300,000.
>
> Fifteen thousand mothers die annually from preventable conditions due to childbirth.

According to Whittridge Williams, 7 per cent. of all young babies die before, during, or within two weeks after birth, 50 per cent. of which could be helped by prenatal care. A statement which is a fact, is, "It is more dangerous to be a baby than a soldier in a front line trench."

Social workers, nurses and public-spirited women are doing wonderful work, but are we physicians giving them proper support? Establishing of maternity centers and clinics, visiting by nurses in homes of expectant mothers, and the giving of advice are all essential, but there must be a doctor at the head to direct work and examine patients.

It has been said no program of a medical convention is complete today without at least one paper on the importance of preventing infant mortality. This is probably true, but before what section should it be presented in order to have the most effect? Does the problem of baby-saving belong to pediatrist alone, when statistics show that the majority of young babies die before they are one month old; or due to the obstetrician alone, when out of 3.4 stillbirths in the United States, one-third are due to syphilis which probably existed in parent before conception?

No one class of physicians can cope with this problem. It means every physician must feel the responsibility of reducing infant mortality. Therefore, a paper of this nature should be given before a general meeting. We must have joint cooperation.

Herbert Kaufman tells us the most valuable quality on earth is a constructive imagination, and this is surely necessary in regard to saving infant life and producing a virile nation. Are some of you specialists thinking, "This is not my problem; I practice neither obstetrics nor pediatrics"? Oh yes, but internist, what about those advanced cardiac and kidney cases under your care in mothers of childbearing age? You genito-urinary men, what about those gonorrheal cases? Dermatologists and syphilologists, surely you see the important part you play. Tuberculosis specialists, what about that tuberculous wife you are attending? Orthopedists, those spinal curvatures?

We all have an important part, direct or indirect, in this work of saving babies. One reason we must reduce the infant death rate, aside from the humanitarian side or view, is because we know the birth rate will not increase while we are at war, and immigration has stopped, and the death rate must not exceed the birth rate. We need every child, and every child must be kept in good physical condition, so, neurologists, you play an important part, for what about the epileptic and the mentally deficient propagating? Will there not be danger of their offspring becoming a burden on the community? We know that many now engaged in war will not return, and many who do, will be incapacitated for work, and probably be a burden, too, on the community.

Therefore, America must become imbued with the thought and desire of building a physically fit nation, the conversion of child life into a perfect adult life; we must keep this vision ever before us. We must have concentration of effort by all physicians along this line.

It may be necessary and expedient to pay a premium to mothers with children and to increase taxes in families without offspring, remembering always these children form our third line of defense, on whom our country will depend, after the war is over and victory won, for democracy to all mankind. Let it not be victory at the expense of our children.

Physicians must regard every infant as a prospective parent who must be kept fit during all stages of maturity. Kaufman states: "Reward must be proportionate to effort." Therefore, if each physician will do his part, who can tell what state of perfection may be attained among the members of our future generations? This present army of 30,000,000 children, our potential citizens, our third line of defense, are here with all their disabilities and congenital drawbacks. Work among them must be of the reconstructive type. This means team-work by all different specialists. This is a most marvelous medical age, and by working in sympathy and harmony with each other and with one thought in mind, of having each child grow into perfect manhood and womanhood, each specialist endeavoring to round out that part of his patient's makeup which is lacking into proper contour, so to speak, we are bound to succeed.

Therefore, I repeat, a paper on child welfare should be given before audiences composed of all different specialists and general practitioners. Who is more conscious of the need of saving the babies than the pediatrist? But to talk to him on the subject, when the majority of the babies die before they are one month old, is similar to the pastor taking those members present to task for nonattendance at church.

The obstetrician does play a most definite part, for 50 per cent. of these young babies that perish can be saved by prenatal care.

While reconstructive work is both interesting and necessary, it does not compare with the fascinating constructive work of the obstetrician, who in a certain sense molds and fashions the health and wellbeing of this little "unseen reality." He is the convoy of this hidden life and is conscious of the dangers which are apt to surround and beset it, and it is his great privilege as convoy to endeavor to have the little one reach its port in safety. While the life of the obstetrician is strenuous and arduous, with many shadows, it is also accompanied by wonderful "high lights."

The terms prenatal and postnatal care are such elastic ones that they may be made to include as long a period before and after birth as one wishes, but to use them in the general sense, i. e., prenatal from conception to birth and postnatal from birth to end of puerperium, or eight weeks, then we can see what a wonderful bearing they have on statistics. It is true that prenatal care will be the means of saving 50 per cent. of the babies who die during the first month of life. It is equally true that prenatal plus postnatal care of the mother will save 50 per cent. of those 15,000 mothers who die annually from preventable conditions due to childbirth. Not enough attention has been paid to this most important stage of the mother, the postnatal, when so much can be accomplished to overcome disabilities which otherwise would result in chronic invalidism, or even worse.

There have been so many splendid articles printed on the subject of prenatal care and its relation to maternal and infant mortality, that it is unnecessary to go into detail as to its meaning and value. Suffice it to state that all interested in this subject feel there should be a well-organized association in every county in each state, so organized that a sufficient number of maternity centers, clinics, and maternity hospitals may be established for each community, and under a staff of workers composed of doctors, nurses, and social workers, and so located that every mother can receive proper instruction and care of self and child, either at home or in a maternity hospital. Rural sections also should have a county maternity hospital with centers and clinics; in other words, a zoning of all communities of both city and country should exist.

In the prenatal and postnatal clinic well-kept records are most essential to insure proper noting of examination, treatment and complications. At the prenatal clinic a full physical examination should be given at the first visit; careful history of previous health and labors and family history should be taken; careful pelvic measurements, Wassermann test, microscopic examination of vaginal secretions, and urinalysis made; blood pressure taken; abdominal and vaginal examinations made; instructions given to expectant mothers as to hygiene, diet, clothing, care of nipples, prevention of miscarriage, etc. (Talks to the husband should also be given so he may know the important part he plays in having healthy offspring, also explanations as to the necessity of proper prenatal and postnatal care for mother and child.) Patients should be instructed as to the meaning and seriousness of certain symptoms and to report at once the occurrence of same; also instructed to report to the clinic every two weeks or oftener, bringing specimen of urine, at which time blood pressure should be taken and general observation of patient's condition made. Patients should be visited in their homes by nurse and instructed in preparation of clothing, sanitation, etc., and encouraged to save money for expenses of confinement.

The foregoing are some of the essential things that must be done in every prenatal clinic.

In the postnatal clinic vaginal examination of mother should be made and notes taken as to condition of perineum, vagina, cervix, fundus, its position and involution; treatment as needed should be given, with instruction to return every two weeks with baby until end of the eighth week, when mother can be referred to the gynecological department for further attention and infant to health clinic to be kept well.

In this way proper attention is given to infant in regard to weight, feeding, etc., and to mother as to lacerations, subinvolution or displacements of uterus, and all other conditions likely to result from childbirth, and also makes complete observed records possible.

Needless to say, a delivery room should be equipped and prepared as carefully as for major surgery, and every delivery conducted as aseptically as for major operations.

Bringing the public to the realization of the importance of this kind of care is of the utmost importance; if we once educate them along these lines they will demand such care.

The Home and School League has done much to bring parent and teacher together in such close relation that the teacher has great influence with the mothers of the pupils. This was well illustrated in a story told this summer. A physician endeavored to make a mother of foreign birth understand that her child had a spinal curvature which needed special treatment, but the mother kept shaking her head and reiterating, "Nau, nau." Thinking she did not understand, he turned to an older child and asked him to explain to his mother what he had said. 'Oh," replied the child, "she understands, she say sister ain't got no sic trouble or ticher would 'ave told us."

The laity have become so impressed with the importance of tonsillectomies and adenectomies that they are firmly convinced all they have to do in order to have beautiful, brawny and brainy offspring is to have such operation performed on them. Would that we obstetricians could so impress them that prenatal care means beautiful, brawny and healthy babies.

Many articles have been written telling of the results of prenatal work done in large cities. Philadelphia has never been very egotistical over work done by her along this line, but nevertheless has been increasing her efforts very perceptibly for the past few years. The Babies' Welfare Association, with 132 institutions as members, has done much to increase interest, raise standards of work, establish more prenatal centers and improve record keeping.

The Woman's Hospital has carried out prenatal work, as noted above, for many years, and in spite of handicaps, such as need of funds and workers, it has been able to accomplish something.

Dr. Berta Meine, pathologist, has very kindly prepared some statistics, showing results of this work, which she will report.

SUMMARY

The children, composing one-third of our population, form our third line of defense; they will have to carry on the affairs of the country and nation generations hence. The kind of care we give them affects the future of our nation. In order to reduce the number of deaths among the children, each physician must do his "intensive best."

Prompt birth registration, establishing an index of pregnancy, federal labor laws restricting mothers of young children from working in industries or in being gainfully employed outside of the home, maternity insurance and mothers' pensions, together with many other reform measures, all have more or less bearing on this problem of saving and protecting our babies.

1831 Chestnut Street.

STUDY OF ROUTINE LABORATORY WORK; BY DR. MEINE

Dr. Cogill has requested me to outline briefly the laboratory work done for the Maternity Department of the Women's Hospital. Most of the work was undertaken with the object of establishing a workable routine.

One of the interesting problems has been the attempt to collect reliable data regarding the value of the Wassermann test on placental blood. This method has been suggested as a means of determining the presence or absence of syphilis among prospective wet nurses. The blood was collected very carefully and preserved so that in nearly all instances clear, non-hemolyzed sera were obtained. In the majority of the cases the placental and peripheral blood under comparison were tested simultaneously. The technic employed is generally accepted as a standard one, that is, three properly standardized antigens and the anti-sheep hemolytic serum with all necessary controls. The results follow:

In a series of 200 cases:

Peripheral Blood		Placental Blood	
Four plus	5	Four plus	1
Three plus	7	Three plus	1
Two Plus	8	Two plus	6
One plus	2	One plus	2
Total	22	Total	10

In no instance was the placental blood positive when the peripheral blood was negative. Three times the action corresponded in degree and in the remainder of the cases, the placental blood gave a less marked reaction than the peripheral blood. Data on this subject available in medical literature was studied. The results were comparable in the main.

To obtain a more definite idea of the practical value of the serological diagnosis of syphilis, a detailed study of the clinical findings of the 200 cases was undertaken. This is briefly summarized by the tabulations.

	Mothers	Total Pregnancies	Per Mother	Living Children
Non-syphilis.	178	426	2.4	342 or 80.5%
Syphilis	22	91	4.5	57 or 63.3%

Total Miscarriages	Per Mother	Per Pregnancy
35	.2	1-12.2
12	.54	1- 7.5

Race—

Negro...63	10 plus	15.8%
White..137	12 plus	8.7%

Babies of non-syphilitic mothers	179
Deaths before birth	4
1 Breech	
1 Macerated fetus	
1 Twin with small placenta dead at 4 months; other twin normal.	
1 Monster compressus; mother fibroid	
Deaths after birth	3
1 Bronchopneumonia	
1 Prematurity	
Total deaths	7
Babies of syphilitic mothers	22
1 Macerated fetus	
Death among normal babies	1-25.5
Death among syphilitic babies	1-22

Our conclusions are as follows: (1) That the Wassermann test made on blood from the umbilical cord or placenta does not give a reliable index of the prevalence of syphilis; (2) that a positive Wassermann test deserves careful attention both in determining the direct treatment and in careful follow-up or post-natal work; (3) that a routine Wassermann reaction should be insisted on immediately before employing a wet nurse; freedom from infection three months ago does not insure absence of syphilis today; (4) that the routine Wassermann is desirable for all maternity patients. These statements are the result of a careful analysis of approximately 200 cases collected from medical literature as above stated.

This routine has been established and is now carried out quite consistently. Since January, 1918, our records show 280 tests with twenty positive findings, a percentage of 7. A 4 plus 16, 3 plus 1, 2 plus 3. Anticomplementary reactions were obtained twice. The analysis of the positive Wassermann cases shows the following:

Apparently healthy babies	6
Under treatment for definite syphilitic ailments	2
Undernourished	1
Died soon after birth	3
Macerated fetuses	5
Mother undelivered	1
Lost track of	2

While all of these cases were referred to the Dermatology Clinic for treatment, many were registered so late that specific treatment could have but little influence on that particular pregnancy. The mothers are now reporting regularly for treatment. All babies are referred to the Children's Clinic for observation and treatment.

A study of the bacterial flora of the vagina during pregnancy has also been attempted. The technic was a modification of the one originally proposed by Menge. Our object here was to determine the relative values of smear and culture diagnoses from the clinic point of view. Two sets were studied for a series of sixty-five cases. The flora varied, the representative findings corresponding well with those reported by Williams and others. As details of these are to be reported elsewhere, it will suffice to state our conclusions:

(1) That routine examination of a vaginal and cervical smear gives valuable information; (2) that when gonococci or streptococci are discovered morphologically, the results should be verified by culture; (3) that the presence of the gonococcus and the hemolytic streptococcus demands treatment before delivery.

This is now part of our routine and the results of these prophylactic measures are gratifying. A detailed analysis of this will be undertaken at the end of the year. Since January, 1918, 310 cases were examined and among them ten with gonorrhea were found.

The routine qualitative urinalysis at definite intervals regardless of previous findings is another established routine. Quantitative urinalysis, blood counts, examination of breast milk, etc., are done whenever there is any clinical indication.

2301 North College Avenue.

BETTER METHODS IN THE IMMEDIATE ATTENTIONS TO THE NEWBORN *

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PHILADELPHIA

The presentation of a subject so extremely elementary and commonplace as the one I am about to bring you might well call for some apology, were not the very palpable neglect of these so-called minor points in obstetrics so often accompanied by such serious results to the child. By the "immediate attentions," I mean, of course, that part of the physician's duties in the conduct of labor which pertains to the eyes, the respiratory tract, and the umbilical cord.

I am sure I need say but little on the prevention of ophthalmia. The accepted methods

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

of prophylaxis are so commonly followed that it would seem superfluous even to mention the subject, and yet the reports from institutions for the blind throughout the country still show that a relatively high percentage of their inmates are the victims of ophthalmia neonatorum. Indeed we are told that this percentage has diminished but little, if any, in recent years. In 1882 Credé demonstrated that ophthalmia is a preventable disease and the adoption of the prophylactic measures he recommended at once reduced the eye morbidity of childbirth from the frightful figures of former years to less than 1 per cent. But that reduction has not continued. There are still too many cases of ophthalmia, and with the widespread distribution of venereal disease known to accompany and follow every great war, we may reasonably expect the number of cases to be increased greatly, if we do not revive and renew our efforts at prophylaxis. In twenty-one schools for the blind, it was found that nearly 30 per cent. of the pupils had lost their sight needlessly from gonorrheal ophthalmia. This was five years ago. A conservative survey at the present time places the number at 25 per cent.

A recent writer estimated that in the city and state of New York there is at least one case of ophthalmia in every two hundred births, and this may not be far from a correct estimate for the country at large. These figures, of course, pertain chiefly to ophthalmia of gonorrheal origin, and do not take into consideration the relatively large number of milder, or nongonorrheal infections. DeSchweinitz states that fully 35 per cent. of all ophthalmia neonatorum is due to pus-producing organisms other than those of Neisser.

While this nongonorrheal ophthalmia may not prove serious and may be readily cured, still it is far better that it should not occur. To say nothing of its potential dangers to the child, the doubts, suspicions and anxieties that it arouses with doctor, nurse and parents make it well worth while to prevent it, by applying in every case, whether suspicious or not, those simple means known to secure safety.

It is to one of the commonly neglected little points in this prevention that I especially wish to call attention; namely, the immediate cleansing away of all contaminating birth fluids from the face the moment the head is born, and before the eyes are open. A little clean gauze or cotton placed at the beginning of labor in convenient reach for this purpose will enable the doctor quickly and very materially to reduce the probability of ophthalmia. In fact, there are those who attach more importance to this little procedure than to the use of the various silver salts.

No one, of course, can find fault with the proper use of the Credé method. The careful instillation of a freshly prepared 2 per cent. solution of silver nitrate is an absolute preventive of ophthalmia, except, perhaps, in those rare cases of intra-uterine infection; but my observation among men in general practice has been that the Credé treatment is largely neglected, and frequently improperly used. It is neglected chiefly, perhaps, because the doctor often thinks he known his patients so well that he can be reasonably sure of their freedom from gonorrhea, and therefore no particular attention need be paid to the eyes. It is improperly used because it frequently happens that the whole matter of attention to the eyes is left to the nurse, who is often incompetent, in this particular at least. It is not always an easy matter to put drops in the eyes of a newborn, crying babe, nor have I found it a common practice, either in institutions or among physicians, to use only freshly prepared solutions of silver nitrate. Just how much of the objection to, and therefore the neglect of, the Credé treatment are due to conjunctival irritation caused by deteriorated silver solutions that have been carried in the obstetric bag for weeks or months is difficult to say. If one can be sure of a fresh solution in a proper container, and of its skilled instillation, then he need have no fear of its irritating effects, and no doubt as to its prophylactic value. But since these conditions are not generally complied with, even in institutions, would it not be far better to adopt a technic that can do no possible harm, that can always be safely applied by any one, and that will prove entirely effective in the prevention of ophthalmia, whether of the gonorrheal or of the nongonorrheal type?

My own practice for many years has been immediately to remove all birth fluids, as previously suggested, and then to instill argyrol in 20 to 25 per cent. solution at once, and daily for the next three days, or longer if thought necessary. I have never yet seen a case of ophthalmia develop under this technic, even where gonorrhea was known to exist, and therefore have no hesitancy in recommending its general adoption.

My second point deals with the clearing of the respiratory tract, and the resuscitation of the child. This is entirely too big a subject, of course, to be discussed in full. My purpose at present is briefly to describe a procedure which I have found to be so simple and effective that I have thought it worth while again to bring it to the attention of those doing obstetric work, for it is not the first time I have spoken on this subject. I am quite sure from what I am constantly seeing, both in and out of institutions, that there is need for more discussion along this line. The method to which I refer may not be the best that can be devised, but it is the best that I know of at present, and it has proven so satisfactory in its application and results that I confess it is a little difficult for me longer to look with tolerance on the more or less obsolete methods that are still so largely taught and practiced.

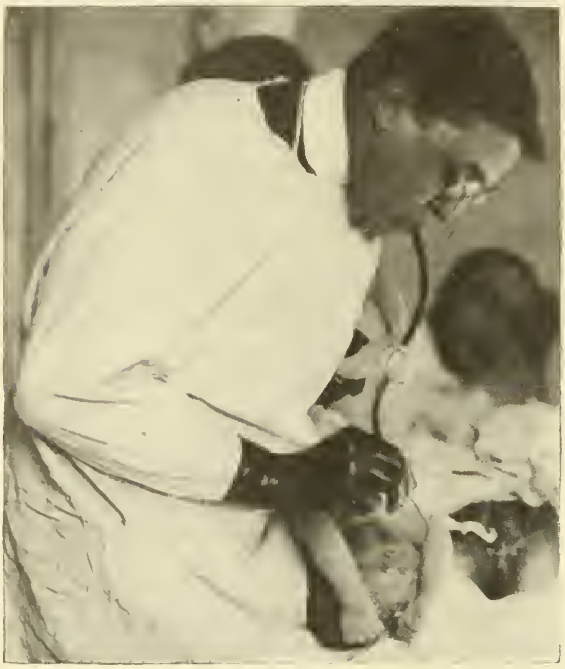

Fig. 1.—Doing the right thing at the right time.

Even the minor detail of how to grasp, and hold and place the child in the moment of birth is not unworthy of mention in this connection, for no one will deny that the intelligent, methodical handling of the child is far more conducive to its welfare than the awkward haphazard manipulations so often seen. I do not mean that every doctor should attempt to follow my method, or any other man's method, but I do mean that he should have a method, even for the smallest details of his work. For instance, it is my routine practice to grasp with my left hand the legs of the child as they escape from the birth canal, inserting one or two fingers between the knees to prevent slipping, and holding the child suspended head downward, with its back toward me, quickly insert the aspirator here shown, and with a few draws, effectually clear the upper air passages before the child takes its first gasp. Experience has taught me that this is the quickest, easiest, and least harmful method of clearing the birth fluids from the child's nose, mouth and throat.

Not only this, but the presence of the aspirator nozzle in the child's nose and throat is usually all that is needed in the way of reflex stimulation to the respiratory function. If it is not, a few slaps on the buttock will suffice. No other effort whatever is attempted or needed to cleanse the mouth at this time and in all cases in which the child does not breathe or cry out at once before even this can be done, no effort to make the child breathe is attempted until this has been done.

The aspirator, of course, is sterilized with the other instruments, and is therefore always at hand, so that it can be used at once before the first gasp of the child draws these fluids into the larynx. It is useless and foolish to begin banging the child around to make it breathe, while yet its nose, mouth and throat are more or less completely filled with the birth fluids.

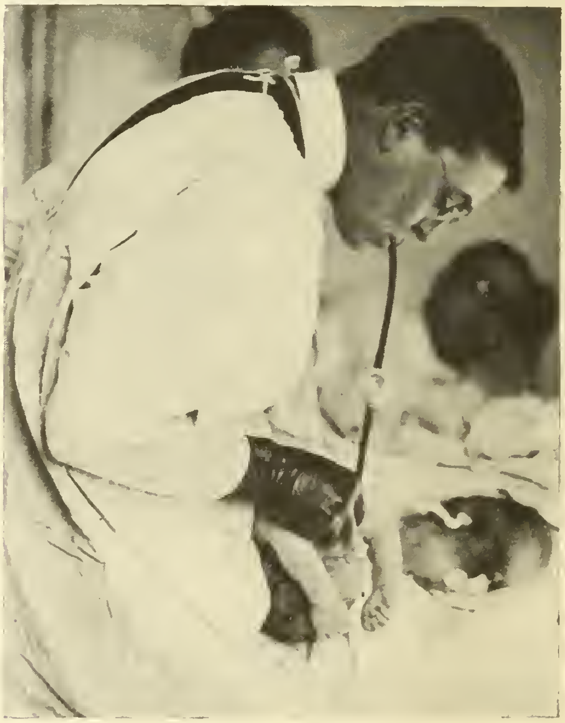

Fig. 2.—Doing the right thing at the right time.

Remove these, and other manipulations will be unnecessary. Remove them by a means that is at once easy and safe, for while their presence in the air passages is undoubtedly dangerous to the child, the usual rough, inefficient, finger-gouging efforts to remove them is even more dangerous, excoriating the mucous membrane, and predisposing to sore mouth and other infections.

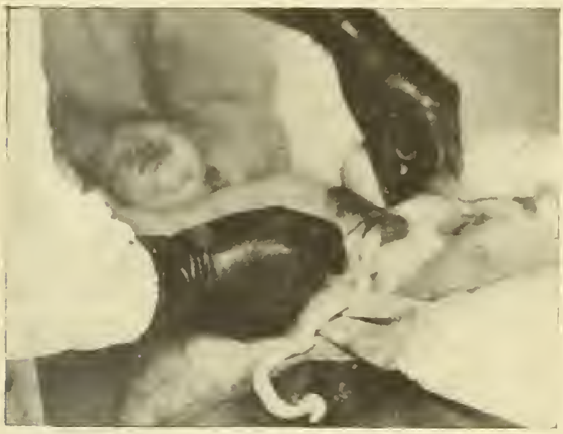

Fig. 3.—Tying the cord in the natural groove at the skin margin. Cord and surrounding skin painted with iodin.

Even though the use of the aspirator may not be necessary in a large percentage of cases, I still believe it is a good routine procedure, for the prompt, thorough cleansing of the upper air passages in this manner cannot help but be of benefit to the child.

As one of my distinguished obstetric friends was kind enough to put it some time ago: "It is a real pleasure to me, now, to clean out the respiratory tract with an 'Arnold aspirator,' and see the child start off breathing free of all obstructing fluids."

De Lee says that some such device "is as necessary in every physician's satchel as his obstetric forceps." For the past five years I have used this little instrument routinely in all my hospital and private work, and when in emergency cases I have occasionally been obliged to do without it, I have missed it more than any other part of my equipment.

Quoting my paper at the time of first presenting this aspirator three years ago:

> "This is the little auxiliary instrument that constitutes the right thing at the right time, and the use of which, in a large majority of cases, makes other measures for the resuscitation of the child, absolutely unnecessary. It is a very simple device for carrying out an old and well-recognized procedure, and has many advantages over the soft rubber catheter, which has often been the only means at hand when it was found necessary to do more than try to remove the liquids by the very questionable practice of mouth-wiping.
>
> "Evidently, however, the value of such a serviceable, ever ready little baby-saver, has not been very generally recognized, for I could find nothing of its kind in the shops and therefore had this one made and placed at the disposal of those who may see a need for it." (Since that time, its use has been accepted widely in maternity hospitals and in private practice throughout the country.) "I would feel that my obstetric outfit would be seriously incomplete without it, for with it I am able promptly to clear the air passages and to resuscitate all cases of ordinary or 'blue' asphyxia without resort to other more time-consuming and questionable methods.
>
> "In anything else than asphyxia pallida, very little is required to be done, if that little be the 'right thing at the right time.' So long as the child is rigid and cyanotic there should be no cause for excitement, or for doing a lot of the things that are often done under such circumstances. It is quite probable, I think, that many of the efforts at resuscitation in such cases are not only useless and uncalled for, but are of the rough-house type that is positively harmful. I am quite sure I have often seen such strenuous tossing and swinging and slapping, and prolonged exposure in hot and cold water, or in viciously cold air, that if the child did survive it was in spite of such treatment and not the result of it."

Personally, I have long since entirely abandoned the use of those time-honored methods of so-called artificial respiration, such as the Sylvester, the Schultze, the Byrd-Dew, the Laborde, and all of their kind, for I am convinced that these are little more than very poor methods of stimulating the reflexes, and the attempt to employ such procedures in most instances is a useless waste of time, if not a menace to the welfare of the child.

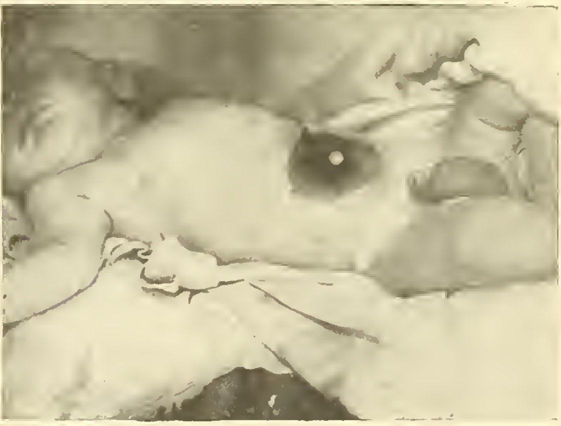

Fig. 4.—Immediately after cutting the cord. Note the very small "stump."

The routine use of the aspirator here shown has proven beyond any question, in my mind, that none but the graver cases of asphyxia need other treatment and in these the absence of all reflex sensibility makes entirely futile the methods to which I have just referred. In true asphyxia pallida the prognosis is always grave, and air must be gotten into the lungs promptly and by such means as will be accompanied with the least possible amount of exposure and shock.

This usually means, after using the aspirator, mouth to mouth insufflation, or the employment of one of the mechanical resuscitators now available. It certainly does not call for any manipulations based on the stimulation of the reflexes.

My third point is on the treatment of the cord. A great deal has been written on this subject, and many different methods of caring for the umbilicus have been proposed from time to time, but it still remains the almost universal custom among physicians everywhere to tie and cut the cord the same as it has been done for ages, except that there is usually a little greater surgical cleanliness now than formerly.

A ligature consisting of anything from a silk thread to a shoestring is tied anywhere within 3 or 4 inches of the umbilicus, and the cord is cut beyond this or between this and a second ligature and, without further ado, the child is handed over to the nurse or other attendant. It is true, the results of this time honored practice are seldom such as to attract any particular attention, else it would not have prevailed so long and so widely without more serious question.

There are comparatively few deaths from infection of the umbilical stump, but there are deaths, and the number is much larger than is usually supposed, owing possibly to the fact that many such cases go unrecognized or unreported. There are not a great many high temperatures from this source, but there are some; and there are many cases of moderate infections or temperatures which go unobserved from the fact that the majority of doctors in general practice do not take temperatures, unless the child is manifestly ill.

It would perhaps be unfair to claim that all cases of icterus neonatorum are due to umbilical infection, but it is generally believed that a large percentage of them are, the umbilical vein being a short, direct route for carrying infection to the liver.

Not all cases in which an inch or two of the cord is left to putrefy and slough away in its own good time become so foul that they can be detected on entering the room, but some of them do. Not all cases develop a dry, hard, mummified stump, which remains as a very uncomfortable, irritating foreign body under the abdominal band for ten or twelve days, but a good many of them do, and I am satisfied that I have often found here the explanation for an uneasy crying baby that appeared otherwise perfectly healthy and normal.

It may be that there are other causes for many of the more or less extensive skin eruptions and gastro-intestinal disturbances that come either with or without fever in the first week or so after birth, but it is not always easy to find the other causes, and since, in the majority of such cases, the umbilical opening is the only wound-entrance for infection that exists, it is quite probable, I think, that they have their origin from this source. No doubt there are others and perhaps congenital reasons for umbilical hernias, a certain number of which are said to come regardless of the method of treating the cord, but is it not reasonable to suppose that the longer the umbilical ring is kept open by the presence of an undetached stump, the weaker it will be, and therefore the more liable to hernia?

I said a moment ago, that there are probably more deaths from umbilical infection than is usually supposed. I have under my care at the present time an expectant mother whose bitter reproach against her former physician is that her first child, born in normal labor, large, strong and healthy, died of umbilical infection, after having had the cord tied and cut in the good old-fashioned way with thread and scissors from the family work basket. No one but the doctor in charge of this case doubted the diagnosis, for by the fourth day the child had a raging fever, with an ulcerating, inflammatory area at the umbilicus which spread over the body and caused death some ten or twelve days later. Two other cases of fatal umbilical infection right here in Philadelphia have come to my notice since beginning this paper. Lambert reported five deaths out of 147 cases of umbilical infection in one of the New York institutions. Robert L. Dickinson, in his famous paper on the ideal treatment of the cord-stump, estimated that from 15 per cent. to 40 per cent. of early infant deaths from all causes were due to sepsis, which, of course, is chiefly umbilical in origin. Thus it will be seen that one does not have to go far to find that there is a relatively high infant mortality from this source.

To what extent the general morbidity of the first few weeks of life is umbilical in origin, would, of course, be difficult to say. Adair, in a most interesting bacteriological study of the umbilical stump, published five years ago, cited a series of 1,000 births, with fever in 43 per cent. of the babies, and demonstrable evidence of umbilical infection in 23 per cent. of them. One hundred cases from another institution showed umbilical infection in 9 per cent. of them, and in still another hospital 462 babies with long cord-stumps had over 10 per cent. of umbilical infections. Adair's investigations demonstrated the presence, immediately after birth, of pathogenic organisms on the cord and surrounding skin in nearly one-fifth of all the cases observed, and this, too, amid the aseptic surroundings of a modern hospital delivery room. We can only surmise what it must be under the less favorable conditions of general practice.

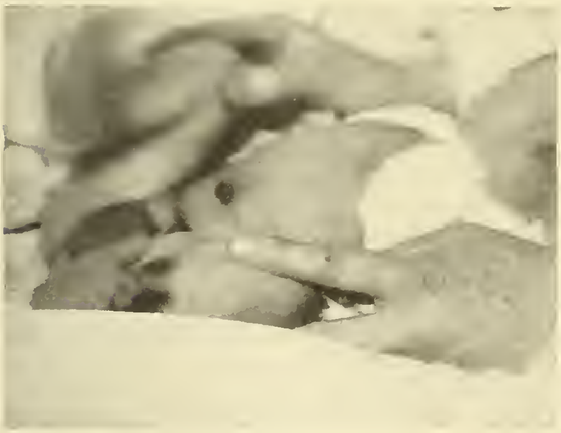

Fig. 5.—48 hours later. Iodin-painted umbilical "cup," instead of the usual cord-stump.

These briefly stated facts make it clear, I think, that the first attentions to the cord involve far more than the usual perfunctory placing of a ligature to prevent hemorrhage. Indeed this is perhaps the least important part of the cord treatment, for as we all very well know, and as the animals and savages have taught us, it is wholly unnecessary to tie the cord at all to prevent hemorrhage.

In view of the above facts, it would seem to me that the first object, aside from separating the child from the mother, is the destruction of any pathogenic organisms in this region, and the aseptic sealing of the only wound-entrance for infection that should exist in a child born in normal labor; and the second object is the early, effectual closing of a possible hernial ring.

That the danger of hemorrhage is not the first and only thing to be thought of at this time may be easily demonstrated by any one who will have the courage to break away from the prevailing practice long enough to try a few cases without ligature. The formality of tying the cord has been entirely discontinued in a number of the larger maternities. I visited one of these a few years ago, where from 3,000 to 4,000 cases a year were being constantly cared for without ligature and without hemorrhage.

In my own ward service at the Samaritan Hospital it has been our routine practice for some time to paint the umbilical region with 3 per cent. tincture of iodin, and when pulsation ceases, to clamp the cord as close as possible to the skin margin with a small hemostat. The cord is then cut on the hemostat, which is left in place until the child is bathed about half an hour or more later. The nurse then removes the clamp, repaints the umbilicus with iodin, and applies a simple gauze dressing. Iodin is applied once a day for the next two or three days, and the umbilicus is otherwise ignored in the daily bath of the child. Our results have been so entirely satisfactory, and so manifestly superior to those attending the usual methods, that we are not at all likely to go back to those methods.

The small bit of cord-stump atrophies in a day or two, the umbilical ring retracts and closes quickly, and thus greatly lessens the danger of infection, of hernia, and of hemorrhage.

The method which I have practiced for years in my own private work, and one taught to our students, is to use a ligature, but to place it in the natural groove between the skin and Wharton's jelly, so that it amounts practically to a ligation of the vessels and not to the usual tying of the cord. The stump is trimmed down to the smallest possible amount, and this and the surrounding skin is painted with tincture of iodin, and covered with a sterile gauze as before described (Figs. 3, 4 and 5). The after-care is the same as when no ligature is used, and the results are almost equally as good. We have had no hemorrhages or hernias, fewer cases of jaundice or other manifestations of infection, and our nurses have been unanimous in their testimony as to the lessened trouble and greater comfort of the babies under this method of treatment than under any formerly used.

4149 North Broad Street.

BACKWARD, NERVOUS AND DELICATE CHILDREN—THEIR TREATMENT AND MANAGEMENT *

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A beneficent result of the present world cataclysm is a growing consciousness of the necessity for the cultivation of sound physical, nervous and mental health in those whose shoulders must bear the burdens of the civilization of the future. Many of the causes of nervous and mental deviation, with their constitutional basis, are controllable if the manifestations are recognized sufficiently early.

Constitutional inferiority, or hypoplasia, may be due to causes which are hereditary or acquired, or a combination of both.

Hereditary hypoplasia is due to defects in the chromosomes of the ovum or spermatozoon of the parents.

Environmental hypoplasia is due (1) to toxemia in the parent or parents affecting (by poisoning) the ovum, or the spermatozoon, or both, giving rise to a defective (poisoned) impregnated ovum or germ; (2) to toxemia in the mother or to local disease in the endometrium, leading to poisoning of the germ, the embryo, or the fetus, or to insufficient nutrition of the developing ovum; (3) to bad environment in postnatal life leading to disease or to malnutrition, with toxemia and arrest of development.

The mixed type of hereditary and environmental hypoplasia is due to toxemia in the parent or parents, themselves examples of hereditary hypoplasia, before conception, or to disease in postnatal life, in children of parents having hypoplasia. (The foregoing from a schéme drawn by Charles P. Noble.)

We are not at present concerned with the gross manifestation of hypoplasia (organic inferiority) but will consider only those whose significance is apt to be disregarded.

The child at birth may give evidence of insufficient vital energy (underdevelopment and asthenia). Asphyxia, especially when followed by convulsions, is a condition requiring careful investigation for symptoms of intracranial pressure.

Convulsions during infancy and early childhood are worthy of grave concern as proof of an unstable nervous system. Chorea likewise is a matter of greater importance than is commonly supposed. Difficulties in feeding are common in the organically inferior. Acidosis is symptomatic of a condition requiring more than a few doses of baking soda. Enuresis is almost always a constant symptom of hypoplasia and its correlated instability. Underweight and the visceroptotic habitus, or overweight with pudgy extremities and phlegmatic temperament, possess more than esthetic significance.

Other stigmata of degeneracy, while not necessarily pathognomonic, furnish important data to be studied in connection with other symptoms.

In the psychic sphere, constitutional inferiority manifests itself in early life in extreme timidity, or its opposite, undue aggressiveness, night terrors, excessive imagination, phobias, compulsive ideas, pathological lying, extreme egoism, etc. Premature eroticism resulting in infantile masturbation and childhood perversion of the sex instinct is a frequent concomitant of the neurotic constitution. Some degree of negativism is normal in childhood, but the perversity which some exhibit is neither a normal attribute nor solely the result of faulty home training. Equaling in significance the "shut in" personality is the diffuseness which scatters and spreads its energies, emotionally depleting itself to no useful end.

Treatment should be instituted as soon as the child's condition is recognizable as one of possible deviation. Defects of correlative growth and subnormal activity of vital forces demand stimulation. Nurture must not only receive unusual attention but the ordinary processes of nutrition must be supplemented throughout the entire period of infancy and childhood. Maternal nursing is highly desirable, under favorable conditions, but often subnormal energy, potential in the child, is due to a like subnormality in the maternal organism with consequent imbalance of all physiological functions, including that of lactation. The dietetic sins of commission and omission are so many and varied as to require a whole session for discussion.

The first step in treatment should be the regulation of the diet to insure not only the required number of calories, but an adequate supply of vitamins as well. Vitamin deficiency is a common cause of defects in development.

Fresh air is an important factor in growth, and the stimulation of cerebral activity not only because of its function as a vehicle for oxygen,

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

but also on account of the beneficial influence exerted through stimulation of peripheral nerve endings, activating all physiological functions.

Water also is a therapeutic agent of no mean value. Hot baths, especially the continuous flow, are useful in allaying irritability and restlessness, and the cold pack, shower, sponge and douche are of great value in stimulating nerve tone, with resulting beneficial effect on metabolism, growth and development.

Heliotherapy is a much neglected measure of great value. Added to the beneficial action of the sunlight on the tissues is the effect of peripheral stimulation through contact with currents of fresh air: Peripheral circulation is accelerated, muscles nourished, blood oxygenated, hemoglobin percentage increased, cellular metabolism is stimulated, and incidentally the processes which favor resistance and induce immunity as well.

Massage is useful as a form of passive exercise, especially in children whose defective psychomotor control interferes with voluntary coordinate movements. The physiological effects of exercise are too well known to require enumeration, in spite of the neglect of this valuable therapeutic agent at the time when it is most needed, namely, in early childhood.

The beneficial effects of the removal of reflex sources of irritaton, as adenoids, diseased tonsils, eye-strain, phimosis, impacted cerumen, carious and abscessed teeth, etc., are so well known that these conditions are sometimes considered to be the cause of the instability, rather than the manifestation of a constitutional condition of organic inferiority.

Antiluetic treatment should be actively instituted and continued in the victims of congenital syphilis, as a means of preventing further degeneration.

There are few organically inferior individuals who do not present vagotonic symptoms, indicating the need for atropin in full physiologic dosage. In asthenic children, nux vomica is of great value in ascending dosage until full physiological tolerance is reached. There is a group of remedies which exert a decided action in removing morbid conditions of the system and promoting general well-being. The most important of these "agents which alter the course of morbid conditions and modify the nutritive processes by promoting waste" are mercury, iodin and arsenic.

Recognition of the importance of the ductless glandular system in correlative growth and development, physical and mental, does not imply blind faith in the unlimited efficacy of organotherapy. The action of the ductless glands may be modified by measures other than the administration of the organic products. None of the measures already mentioned are without their effects on the ductless glandular system, either as a stimulus to function, or as a stabilizing influence on the system as a whole. In constitutional inferiority the implication is most often pluriglandular, a manifestation of a general hypoplastic condition rather than a clinical entity, and for this reason the best results are obtained by a judicious combination of the glands. I use a combination of small doses of pituitary, thyroid and adrenal glands, with the gonads suitable to the sex of the child, fortifying the dose of some particular gland or glands as indicated by a careful analysis of the symptoms of ductless gland involvement.

Proper regulation of environmental influences is impossible unless under the absolute control of the physician.

Lack of time forbids extended discussion of the educational management of children of the types which are the subject of this paper. By educational management I do not mean the formal routine of the classroom, but the education which embraces all forms of human experience, recognizing the fact that "every stimulus with its corresponding reaction has a definite effect on character." Every act of the child's daily life should be utilized in the systematic development of the normal powers of intellect, feeling, and conduct. The body must be educated as well as the mind, and the attempt is useless unless the nervous system is supplied with good red blood and is capable of coordinate control. Thus it is difficult to draw a line of demarcation between measures which are strictly educational and those which by broad interpretation would be considered medical and hygienic; as, Swedish and various forms of corrective gymnastics, eurythmics, esthetic and folk dancing, swimming, skating and other outdoor activities. The Montessori and kindergarten methods offer much that can be profitably adapted to the education of hypoplastic children. The specific requirements of the individual necessitate that methods shall be adapted to the child, not the child to the methods; consequently no system can be used in its entirety. Defects of speech require special training as do word blindness, word deafness, and other deficiencies, insufficiencies and irregularities in function of various faculties.

CONCLUSIONS

1. The anomalies of development formed in backward, nervous and delicate children are due to an underlying hypoplasia originating in causes which may be hereditary, environmental, or a combination of both.

2. The manifestations of organic inferiority are evident at a very early stage in the individual's existence.

3. The earlier treatment is instituted the more favorable is the prognosis.

4. To be most effective, treatment should include all measures, medical, hygienic and educational which have for their purpose the stimulation of the correlative forces of growth, the elimination of waste products, the development of psychomotor and emotional control, and the cultivation and organization of the higher faculties of the mind, all of which measures are included in the term "pedo-euthenic treatment."[1]

A CONSIDERATION OF THE MOST COMMON RECTAL DISEASES IN CHILDREN *

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Diseases of the rectum are not very common in children but some of them are sometimes met with and it is therefore essential that all medical men should be familiar with the different varieties as well as with their treatment.

Hemorrhoids are rarely observed in children. I have treated but three cases; one of these, a boy of ten, was suffering from protruding internal hemorrhoids; the second was a boy, 4 years old, with small venous internal hemorrhoids, the result of obstinate constipation; the third, a girl, 2 year old, with a thrombotic hemorrhoid caused by straining at the act of defecation.

The symptoms of hemorrhoids in children are very similar to those of the same affection in adults, consisting in the protrusion of the hemorrhoids and occasional bleeding at the time of defecation.

The treatment of hemorrhoids in children consists in the regulation of the action of the bowels and the application of astringent ointments. Under this treatment a cure will generally result. In aggravated cases the use of the ligature or the clamp and cautery is demanded.

Prolapsus recti frequently occurs in children. It is either congenital, due to weakness of the sphincters, or acquired through pressing or straining in constipation, diarrhea, pertussis, oxyuris, phimosis, vesical calculus, or constant crying. A simple prolapse of mucous membrane very rarely occurs in children; it is invariably found to consist of all the coats of the bowel. A part of the rectum, about 3 inches in length, comes down at stool in the form of a round or sausage-shaped, glistening red or bluish red, frequently bleeding mass. The protrusion is either spontaneously retracted or is replaced by the mother, but prolapses again at the next act of defecation. The prolapsed part is, as a rule, healthy in appearance but sometimes becomes ulcerated or excoriated from constant friction against the clothing.

The prognosis is good and the treatment simple. First, reduction should be tried. The prolapsed portion is slowly pushed up into the rectum with the fingers well lubricated with vaselin. After the reduction has been completed a thick compress of absorbent cotton is placed over the anal orifice; the buttocks are for some time held together with a bandage or adhesive plaster. Precautions should be taken to prevent recurrences during defecation or micturition. Children under 3 years of age should not be permitted to defecate into a vessel placed on the floor. The feces should either be voided in the recumbent position or while the child is suspended vertically. This can easily be done by the nurse lifting the child off the ground with the hands in the child's armpits. By this latter method hard straining is avoided and the descent of the bowel prevented. In older children defecation should always be effected in the recumbent position. These procedures will sometimes remedy the trouble, provided etiological factors are removed.

When prolapsus of the rectum depends on the presence of a vesical calculus, or of a contracted prepuce, or of a rectal polypus, or of parasites inducing great straining efforts, the removal of the cause will generally effect a cure of this condition. The most important feature of the palliative treatment, however, is the continuous avoidance of either constipation or diarrhea, both of which give rise to straining at stool. A light nutritious diet should be ordered and suitable tonics prescribed. The deficiency in the contractile power of the sphincters is sometimes benefited by subcutaneous injections of strychnin. Painting the prolapsed part with solutions of silver nitrate or balsam of Peru is useful. When these measures fail the operative treatment should be resorted to. The operative treatment consists of either excision of a few folds of skin at the anus or punctiform or linear cauterization of the prolapsed portion with the thermocautery or nitric acid. In children, the cauterization with nitric acid is attended by the most satisfactory results.

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[1] Paedo—from the Greek Pais, a child, and from pedology, "that branch of pediatrics in which the physical and mental effects of child development are especially studied and treated by the physician." Euthenics "the science and art of improving the human race by securing the best external influences and environmental conditions for the physical, mental and moral development of the individual, and for the maintenance of his health and vigor."

* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

Polypus recti is not an uncommon disease in children. It is the most common cause of hemorrhage from the rectum. Bleeding is the first symptom of a rectal polypus and usually occurs during or immediately after the act of defecation.

Rectal hemorrhage in girls is often mistaken by parents for vicarious menstruation. This error, however, can easily be avoided, for in rectal polypus the blood stain on the shirt is in the back, while in precocious menstruation the blood stain is in the front of it. The blood is never mixed with the feces and is usually found on the surface. The hemorrhages are slight, sometimes with pain and tenesmus. Polypi recti may be single or multiple and are attached to the rectum by means of a short or long pedicle. They are usually attached at a point 1½ or 2 inches above the anus but they may be located high up in the rectum. They sometimes protrude during defecation and appear at the anus as a dark red globular tumor the size of a cherry or even smaller and usually present a bleeding surface. When a polyp is small it reenters the rectum immediately after defecation; but when large and remains outside it is usually replaced by the mother after each stool. If the polyps do not come down during defecation, recourse should be had to a thorough rectal examination. When located 2 or 3 inches above the sphincter a digital examination will suffice to diagnose the case; if located in the upper part of the rectum a proctoscopic examination will be necessary to disclose the presence of this growth.

I have had many cases of rectal polypus referred to me with the statement that the child has hemorrhoids or prolapse of the rectum. It will, therefore, not be amiss to discuss the differential diagnosis. The points of differentiation may be summed up as follows: Hemorrhoid is a very rare affection in children; bleeding in hemorrhoids is usually profuse and there are always two or three tumors present. Polyps, on the other hand, are more frequently observed in children and rarely cause hemorrhage beyond the passage of a few drops of blood at stool. Procidentia recti is more frequently met in children, is larger in size, has a velvety-like red color, always protrudes during defecation, rarely returns spontaneously and the protrusion includes the entire circumference of the rectum. There is no hemorrhage present except in rare cases when the prolapse is ulcerated. The prognosis is good, although the loss of blood may give rise to anemia and general debility. Spontaneous cure sometimes takes place by the tearing of the pedicle during the passage of a hard fecal mass. In most instances, however, it is necessary to pull down the growth either with the fingers or with thumb forceps, clamp it at the base, ligate and cut off. When the polyps are located in the upper part of the rectum it is necessary to remove them by the snare or torsion, through a long protoscope.

Anal fissure is more common in infants than in older children and probably develops as a result of trauma, such as the passage of dry hardened fecal mass. Another cause of anal fissure may be necrosis, the result of hard scybala obstructing the circulation by pressing on the blood vessels. Of course, any condition which produces rectal discharge or prolonged straining is likely to lacerate the delicate mucous membrane and cause an anal fissure. It is rarely due to congenital syphilis or tuberculosis. A very common cause of anal fissure is the frequent and careless introduction of the syringe nozzle when giving enemata. The fissure causes severe pain and violent outbursts of crying during defecation. Jacobi thinks fissure of the anus a much more common affection in children than is generally supposed, and believes that many fretful children who sleep badly and cry constantly, and often present symptoms simulating those of vesical calculus, really suffer from fissure of the anus. As every attempt to defecate produces intense suffering the children desist, and remain constipated for a few days superinduced by the reflex contraction of the sphincter ani resulting from the anal fissure. When defecation takes place the stool consists of hard scybala, mixed sometimes with mucus and blood or a few drops of clear blood. The diagnosis of anal fissure is not difficult because its symptoms are characteristic and the lesion is at the mucocutaneous junction of the anus where it can easily be exposed by a simple examination. It is usually situated just within the verge of the anus, at or near the posterior commissure but may occur within the inner surface of the external sphincter and may be located at any part of the anus. It may sometimes be situated above the sphincter and will only be revealed on a very careful examination. A digital examination is always required to ascertain whether or not there are polyps present complicating the fissure. Not much pain is caused by the passage of the little finger into the rectum if gently introduced and passed well against the opposite side from where the fissure is located.

An early diagnosis is very important because sometimes the abraded rectal mucosa becomes infected from the pathogenic bacteria in the rectum, resulting in a submucous or ischiorectal abscess. Recently I saw such a case referred to me by Dr. Guthrie in an infant about 2 months old. The history was as follows: A few days after birth the baby began to cry fearfully during defecation. No action of the bowels for two days relieved the violent outbursts of crying. An enema given by the mother to relieve the constipation brought on another attack of crying for over an hour. The enema was effectual and the stool consisted of stone hard scybala mixed with bloody mucus. From this time on the baby slept poorly and cried almost constantly. Twenty-four hours later the mother noticed swelling and edema of the skin near the anus. This purulent collection in the loose cellular tissue surrounding the rectum was an ischiorectal abscess and started from the anal fissure, which the child must have had for a couple of weeks. The mother poulticed the abscess for twenty-four hours, when it opened spontaneously and the pain was quickly relieved. The wound, however, never healed up and left behind a fistula in ano. Under a few whiffs of chloroform I laid the fistulous track freely open after which it was allowed to heal by granulation. There being very little induration the wound healed up in three weeks.

The treatment of anal fissure is, as a rule, divided into the palliative and the operative. The palliative treatment is sufficient in most cases and consists of measures for preventing constipation, observation of local cleanliness and applications to the ulcer. It is usually remedied by a few applications of silver nitrate or balsam of Peru, in conjunction with the administration of laxatives; drastics, however, should never be employed. This simple treatment may be followed by a cure in cases when the ulcer is small and not deep, and when there is no sphincteralgia present. If these measures fail, cauterization should be resorted to. A 20 per cent. solution of cocain is applied directly to the ulcer on a pledget of cotton to reduce the pain accompanying and following this procedure, and the fissure is then thoroughly cauterized either with the electric or Paquelin cautery point, or with the solid stick of silver nitrate or carbolic acid. I like the electric cautery knife and always employ it in preference to the other methods. The operative treatment is the surest and quickest method of cure. There are several methods practiced for the operative treatment of fissure, but all have the same object in view, namely, the causation of a temporary paralysis of the sphincter, placing the ulcer at rest until repair can take place. Stretching of the sphincter with incision of the ulcer is most commonly practiced by surgeons. In some cases the painful contraction of the sphincter is relieved by passing the little finger into the rectum and partially tearing the sphincter muscles by stretching without incision or excision of the ulcer. The after-treatment consists in keeping the bowels confined for three days and after this time daily movements are secured by laxatives. The ulcer usually heals in about two weeks.

Fistula in ano is a very rare affection in infants and children, but does occur with sufficient frequency in this class of patients to render its diagnosis and treatment most important. I have seen a few cases in my own practice occurring in children of various ages. Allingham and other proctologists report cases of fistula in ano in children of a very tender age.

The treatment of this affection consists in the free division of all the tissues between the external and the internal opening of the fistulae without cutting through the wall of the bowel. Only the track of the fistulae should be freely laid open and allowed to heal by granulation. The internal opening of the fistulae should be touched up with a solid stick of nitrate of silver or carbolic acid, after which it is to be allowed to heal by granulation. By this means the danger of incontinence is certainly avoided and the result is invariably good. The division of the sphincters in children is more likely to cause incontinence than it would in adults, irrespective of whether the muscles have been cut obliquely or at a right angle. The reason for this is because the delicate sphincter muscles and the nerve supply controlling them are not yet fully developed.

Fecal impaction, or coprostasis, is occasionally met with in children and requires careful attention. Indeed, it occurs with sufficient frequency in children to render its diagnosis and treatment most important.

I have encountered a number of cases of this affection in young children. I have a case at the present time under my care that will illustrate the severity of this affection.

B. B., aged 14, was referred to my clinic at the American Stomach Hospital by his physician, Dr. Wilkinson of this city. His mother gave the following history: Up till 10 years of age the boy was perfectly well, when he began to suffer with constipation. He would go several days without any evacuation and she gave him purgatives of all kinds to relieve the condition. The boy grew very restless and nervous, took no interest in his studies in school. He had marked anorexia, offensive breath, furred tongue, headache and colic. As he grew older the symptoms were more pronounced. The mother noticed a change in his habits and character. The boy could do nothing on account of persistent headache and looked morose and melancholy. Alarmed over his condition she consulted several physicians and later took the boy to three hospital dispensaries for treatment. He was given cathartics by one physician to overcome the stubborn constipation, but the treatment was soon followed by a profuse diarrhea lasting at times a week or two. Annoyed by the pain, tenderness and frequent stools he now sought relief for the diarrhea and was promptly given astringents and intestinal antiseptics and sedatives to check the constant straining and desire to empty the bowel. This condition lasted four years and meantime his general condition grew worse. He was treated for nervousness and anemia and in one dispensary a diagnosis of chronic peritonitis was made on account of the enormously distended abdomen and the accompanying pain and tenderness.

An examination per rectum established the diagnosis of fecal impaction the size of a fetal head. The fecal tumor was hard and globular in shape. This mass must have been present a long time and was so hard that injections of any kind would have been useless. In fact several injections of soap suds containing oil and glycerin had been ordered by physicians but gave the boy no relief. Under an anesthetic I dilated the sphincters and delivered the fecal tumor in sections. The impaction was located in the colon sigmoid and rectum and the removed feces weighed about ten pounds. The boy had an uneventful recovery and all the dangerous symptoms of occlusion he presented before the operation have disappeared. He is now receiving hygienic, dietetic and some medicinal treatment to prevent a relapse.

The lesson to be drawn from this and similar cases is that in chronic constipation or diarrhea an examination of the rectum should always be made. It sometimes reveals much to help in the diagnosis. An impacted rectum, never suspected, will thus be discovered.

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SOME INFLUENCES OF DIET AFFECTING THE SECOND DENTITION *

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It is an undeniable fact that medical men and dentists alike have long neglected to give the thought and attention to the care of children's teeth which we now know is absolutely necessary. In recent years admirable dental clinics have been established in some of our larger cities and more or less dental inspection is carried out in many smaller communities but it still remains true that at large throughout the United States little or nothing is done to prevent the deformities and decay arising from errors in development and nutrition, and the results of infectious conditions.

The problem is all the more difficult to solve because of the evident lack of interest on the part of the medical and dental professions as a whole. The members of these professions must be aroused to the urgent necessities of the problem if they are to lead the way and to bring the true importance of the proper care of the teeth in childhood to the attention of the laity. When public opinion is educated by the combined medical and dental professions to a full appreciation of what the solution of this problem means to the children of our land there will arise a unanimous and universal demand for painstaking care and attention to the teeth of every child.

Preventive measures are today of greater importance to us than are those that are merely remedial and at no time of life do prophylactic efforts meet with as gratifying and satisfactory results as in the formative period of childhood. For many reasons, one of the very important of which is the effect on the development of the teeth, it is necessary to prevent the onset and spread of those diseases to which children are especially susceptible, and which so markedly reduce their vitality.

Among the diseases which, as just stated, may have a distinct bearing on the growth and future development of the teeth are tuberculosis or syphilis in early life; rickets, infantile atrophy, cretinism, defective cerebral development; such communicable diseases as measles, whooping cough, diphtheria, scarlet fever and poliomyelitis; hypertrophied or diseased tonsils,

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

or adenoids; and dental infections. Some of these conditions act purely by reason of their effects on development as in cretinism and defective cerebral states; while others, as rickets, infantile atrophy, tuberculosis and syphilis are largely detrimental because of the disturbances of nutrition with which they are associated.

Communicable diseases and infectious conditions generally not only affect the development and growth of the teeth through processes that are distinctly infectious but also by reason of their effect on the general nutrition and growth of the child. No study bearing on the development and growth of the teeth can be complete without taking into account what has just been said as to the effect of diseased conditions on the teeth but we are at present in this paper principally concerned with the influence of diet on the second dentition.

It is an interesting fact that is borne out by the investigations of Mummery, Pickerill, and others, that the teeth of prehistoric men, and of those races which have as yet not come under the refining influences of modern civilization, show a degree of perfection which is unknown to us in this day and generation with all its enlightenment. According to Mummery, decay was found in only 2.9 per cent. of British skulls of the Stone Age, and in 15 per cent. of Anglo-Saxon skulls. Of uncivilized races the Esquimaux showed decay in 1.4 per cent., the Fiji Islanders in 5.2 per cent., the Indians of the northwestern American coast 3.9 per cent., and the North American Indians 9.5 per cent. In contrast to these figures an examination of 10,500 school children in England and Scotland showed dental caries in 86 per cent.; and in Northern Germany of 19,725 school children, 95 per cent. showed dental caries. In 1911 the late Dr. Percy B. McCullough, then chairman of the committee in charge of the Dental Dispensary, Bureau of Health of Philadelphia, examined 3,236 school children from 7 to 14 years of age. He found 5,575 first permanent molars erupting at 6 years of age were lost or decayed, while 976 second molars erupting at twelve years, were lost or decayed, and 1,212 other permanent teeth were decayed.

What are the factors responsible for such a large proportion of dental caries among civilized peoples of the present day?

The simplicity of the food of uncivilized peoples, and the fact that their food was not altered in its chemical content by the processes used in milling at the present day, or by the methods of cooking and baking now employed, would appear to be an important factor. Another factor is to be found in that there was more "roughage" in their food and hence the muscles of mastication were early developed, the jaws strengthened and enlarged, and the teeth found more space in which to develop, and when erupted were cleansed, polished, and hardened. Finally, there was not present in their diets that excess of carbohydrate foodstuffs which so generally makes up the major portion of the diet of civilized peoples today.

To improve the teeth of the future generations it will be necessary to begin with the pregnant mothers and supervise their diets so that they may have a well balanced ration in excess of their usual food requirements to the end that both mother and child may not lack needed nutriment for perfect growth and development. This careful dietetic oversight and management must follow the nursing mother and her child until weaning is accomplished, after which the child must be still further properly directed from the standpoint of diet.

The infant should always have breast milk from birth until the seventh or eighth month if it is at all possible. When weaned a properly modified cow's milk should be employed. During the second half of the first year of life vegetables and fruits thoroughly cooked, and comminuted carefully by mashing them through the meshes of a fine wire sieve, may be given with advantage. Small portions should be used at first and these can be gradually increased as warranted by circumstances. Juices of fruit, such as oranges, prunes, peaches, pears or pineapple may be given as early as the second month of life, always beginning with small portions, a teaspoonful to begin with, and gradually increasing as the infant proves its ability to digest and assimilate the juice.

With the appearance of the deciduous or milk teeth, such food as will require chewing should be given to the child. Dry crusts of bread, zwieback, toasted bread, the coarser cereals, meat, and meat bones; and later, green salad leaves, cooked celery, spinach, peas, cauliflower tops, asparagus tips, string beans, and apples.

The investigatons of Pickerill indicate that it is unwise to end a meal with a sticky carbohydrate which leaves a decay producing residue. Rather should the last portion of the meal include some acid fruit which tends to increase salivary secretion and the production of ptyalin, and which makes the saliva more alkaline.

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STUDIES IN THE SERUM TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS *

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While the serum treatment of epidemic cerebrospinal meningitis by the intraspinal route of injection has been an acknowledged success when potent serum was employed, as shown by the reduction of a gross mortality of 70 to 90 per cent. among cases untreated with serum compared to 30 per cent. or less among serum treated cases, yet continued efforts are necessary in order to lower the 20 to 30 per cent. mortality remaining among the serum treated cases.

The problem of the control and serum treatment of meningococcus meningitis is complicated by reason of the fact that more than one type of meningococcus is capable of producing the disease, and that the micro-organism may be carried and disseminated not only by convalescents but by healthy carriers. Prior to the studies of Dopter[1] in 1909 and of Wollstein,[2] we believed that there was but one strain of meningococcus to deal with, but since then and particularly by reason of recent intensive researches in the English, French and American armies by Gordon,[3] Ellis[4] and others, we have learned that there are at least two main types of meningococci and two intermediates, approximately one or the other of these main types being capable of producing meningococcus sepsis and meningitis; as with pneumococci, these micro-organisms are only differentiated by immunologic reactions and particularly that of agglutination, and the antibodies for them, and particularly for the two main types, are highly specific. It is highly important, therefore, to employ a potent polyvalent serum in the treatment of meningococcus infections because at the present time type diagnoses and the employment of monovalent serums in treatment are not yet available, as they are in the diagnosis and treatment of lobar pneumonia.

For many years we have known that meningococci may be found in the secretions of the nasopharynx not only of persons suffering with meningitis, but also among those coming in contact with the patient. Recent investigations in the Army and Navy by Gordon,[3] Ellis,[4] Flack,[5] Fildes and Baker,[6] Mathers and Herrold[7] and others have shown that this carrier problem is more important than originally surmised and that the majority of cases of meningitis are due to previous contact with a patient or a healthy carrier of the coccus. During epidemics of the disease somewhere between 3 and 8 per cent. of persons are likely to harbor meningococci but the majority of these only for a brief period, constituting the temporary carriers; somewhere between 1 and 2 per cent. are chronic carriers and these constitute the greatest source of danger when permitted to intermingle freely with others, and particularly in crowds as in Army and Navy life. The detection of carriers by bacteriological and immunological examination of the secretions of the nasopharynx is not a difficult problem, but the subsequent treatment and management of the chronic carriers is as difficult and puzzling as in the management of the healthy carriers of virulent diphtheria bacilli.

The successful treatment of meingococcus meningitis with serum depends largely on early diagnosis and the proper administration of sufficient serum of high potency and polyvalency.

The sporadic case is always more difficult to diagnose than cases developing during epidemics but with the least clinical suspicion of meningitis the physician should resort to spinal puncture without delay. When properly performed the operation is practically without danger and, in view of the definite and valuable information of either a positive or negative character to be gained by very careful chemical and bacteriological examination of the cerebrospinal fluid, should be resorted to without hesitation and repeated one or more times if necessary until the diagnosis has been established.

Meningococci are always likely to be found in the nasopharynx of persons suffering with an infection, and in doubtful cases a bacteriological examination by cultures and agglutination tests

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* From the McManes Laboratory of Experimental Pathology of the University of Pennsylvania.

* Read before the Section in Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1918.

[1] Dopter, C.: Etude de quelques germes isoles du rhinopharynx voisins du meningocoque (parameningocoques). Compt rend. Soc. de biol., 1909, 67: 74-76.

[2] Wollstein, M.: Parameningococcus and Its Antiserum, Jour. Exper. Med., 1914, 20: 201-217.

[3] Gordon, M. H.: Medical Research Committee; Special Report, 1917, No. 3.

[4] Ellis, A. W. M.: Classification of Meningococci Based on Group Agglutination Obtained with Monovalent Immune Rabbit Serums, Brit. Med. Jour., 1915, 11: 2868.

[5] Flack, M.: Medical Research Committee, Special Report, 1917, No. 3.

[6] Fildes, P., and Baker, S. L.: Relation of Case of Cerebrospinal Fever to Positive Contacts, Lancet, London, 1917, 11: 602-603.

[7] Mathers, G., and Herrold, R. D.: Meningococcus Carriers and Bacteriology of Epidemic Meningitis, Jour. Infect. Dis., 1918, 22: 523-534.

may prove of value. The micro-organisms are regarded by Flexner[8] as infecting the meninges by direct extension along the lymphatics of the olfactory nerves with their occasional presence in the blood stream. Recent studies and particularly those of Herrick[9] and Baeslack[10] indicate that the coccus may be present in the blood more frequently than heretofore surmised and that this "meningococcus sepsis" may be present and produce systemic symptoms such as "moderate fever, weakness, mild apathy, coated tongue, pharyngitis or coryza, and mild digestive disturbances" from twenty-four to seventy-two hours before the development of headache and other cerebral symptoms of meningeal involvement. In the early diagnosis of meningococcus infection a blood culture may, therefore, aid in establishing an early diagnosis and it is my custom to culture the blood routinely at the time of spinal puncture.

It is highly advisable also to culture the secretions of the nasopharynx of those who have come in close contact with the patient either before or after the diagnosis has been made; prevention of the disease by active immunization with polyvalent meningococcus vaccine has been advocated and is based on sound theory, although not yet sufficiently tried to discuss in terms of practical results. Since meningococci may gain access to the blood prior to involvement of the meninges, it may be well, in certain instances at least, to administer 10 to 20 c.c. of antimeningitis serum by subcutaneous or intramuscular injection in the hope of affording protecton, by reason of antibodies in the body fluids, for a period of two to four weeks.

In the serum treatment of the disease the physician should be careful to select as fresh serum as obtainable and that of the most reliable manufacturer. It is highly important that the serum be as polyvalent as possible; that is, prepared by the immunization of horses with a large number of different strains of meningococci. It is quite likely that type diagnosis and the administration of monovalent serums for infections with the fixed types of meningococci will soon be available with consequent reduction in the mortality rate, but until then our faith must be placed in polyvalent serum of high potency in hope that it contains antibodies for the strain of meningococcus infecting our patient. If the patient, however, does not show improvement clinically and in the analysis of the cerebrospinal fluid after two intraspinal injections of large doses of antiserum, I advise that the serum of a second manufacturer be substituted on the basis of the hope that the second serum contains the specific antibodies for the particular type of meningococcus producing the disease, which were absent from the first serum.

In the serum treatment of meningitis among adults, from 20 to 30 c.c. of serum are injected intraspinally with corresponding doses for children. An equal or somewhat larger amount of cerebrospinal fluid should be removed and the serum, previously warmed by wrapping the ampoule in towels rung out in warm water, injected by gravity or very slowly with a syringe. As a general rule, daily doses are required until four to eight injections have been given; in severe infections, the patients should receive two doses during the first and also during the second day of treatment. Herrick has reported good results following the intravenous injection of serum and this should certainly be made if a meningococcus bacteremia exists. It is my practice to administer at the outset one dose of 30 c.c. of serum diluted with an equal amount of sterile salt solution intravenously, after preliminary desensitization, in exactly the same manner as antipneumococcus serum is administered in the treatment of lobar pneumonia.

The normal cerebrospinal fluid is deprived of those natural or normal antibodies which may be found in the blood and for this reason offers very little or no resistance to the presence and multiplication of meningococci until the inflammatory processes are well established. For this reason our main interest in the serum therapy of meningitis has been concerned with the influence of fresh normal serum alone and in combination with antimeningitis serum, on virulent meningococci. The curative value of the antiserum is ascribed to the presence of several antibodies and particularly opsonins, which lower the resistance of the cocci and render them more susceptible to the phagocytosis, a bactericidan, which injures the cocci so that they fail to grow and multiply, and an antitoxin, which neutralizes the toxin liberated with the breaking up of the cocci. Davis[11] has found that normal human serum contains opsonin for meningococci and Flexner[12] has shown that normal monkey serum is capable of reducing appreciably the toxic effects of given doses of virulent mengococci. During the past year experimental studies by Toyama, Matsunami and the author[13] have shown that fresh antimeningitis serums are more potent than preserved serums, indicating that a substance of curative value, and probably a complement, is lost within a few days after the serum has been secured from the blood of a horse and that fresh normal human and guinea-pig serums are not only highly opsonic for meningococci in dilutions as high as 1 to 32 or 1 to 64, but that the addition of these normal serums, and particularly fresh human serums, to various antimeningitis serums greatly increased the opsonic or phagocytic activities of the serum and also augmented to some extent the bactericidal activity. Since the cerebrospinal fluid is known to be free of complement and normal opsonin until at least the inflammatory processes have increased the permeability of the meninges and choroid plexus and thereby permit the passage of these substances from the blood, and since antimeningitis serum is several weeks or months old when employed and lacks the presence of these labile substances, we believe, on the basis of our experimental results, that it is logical and worthy of clinical trial to complement the antimeningitis serum before intraspinal injection by the addition of at least one cubic centimeter of fresh human or guinea-pig serum to each 9 cubic centimeters of antiserum, and particularly in the treatment of serum-resistant cases. If antiserum is not obtainable for prompt administration it appears advisable to inject a similar dose of fresh, sterile, normal human serum until the antiserum is available, but under no circumstances do we advise the substitution of normal for immune antiserum if the latter is obtainable without undue delay.

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[8] Flexner, S.: Mode of Infection, Means of Prevention and Specific Treatment of Epidemic Meningitis, Jour. A. M. A., 1917, 69: 639, 721, 817.

[9] Herrick, W. W.: The Epidemic of Meningitis at Camp Jackson, Jour. A. M. A., 1918, 70: 227.

[10] Baeslack, F. W., et al.: Cultivation of the Meningococcus Intracellularis (Weichselbaum) from the Blood, Jour. A. M. A., 1918, 70: 684-687.

[11] Davis, D. J.: Studies in Meningococcus Infections, Jour. Infect. Dis., 1905, 2: 602-619.

[12] Flexner, S.: Contributions to the Biology of Diplococcus Intracellularis, Jour. Exper. Med., 1907, 9:105-141.

The technic of complementing the antiserum with fresh normal human serum is not difficult if ordinary laboratory facilities are at hand. Blood is aspirated from a vein at the arm in a sterile 10 c.c. syringe and expelled into a sterile centrifuge tube; after standing ten or fifteen minutes the clot is gently broken up with a sterile glass rod, the cotton stopper of the tube replaced with a sterile rubber or cork stopper and the tube centrifuged until perfectly clear serum is obtained. The latter is pipetted off in a sterile test tube and is ready for mixing with the antimeningitis serum as follows: the latter is warmed and expelled into the barrel of a 20 c.c. syringe and 3 c.c. of normal human serum added to each 15 c.c. of antiserum, mixed and injected by gravity or syringe, or the needle is inserted into the subarachnoid space and a few cubic centimeters of the antiserum injected, when the operation is interrupted for a minute or two while the upper stopper of the vial is removed, normal serum pipetted in, the stopper replaced, the serums gently mixed, and the injection completed.

So far we have not been able to give this method clinical trial and the recommendations are based entirely on the results of laboratory studies, but the technic is comparatively simple, requires but little extra time and appears worthy of use in further efforts toward improving the results of the serum treatment of meningococcus meningitis.

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[13] Kolmer, J. A., Toyama, I., and Matsunami, T.: The Opsonic Activity of Fresh Normal Serum Alone and in Combination with Antimeningitis Serum for Meningococci. Kolmer, J. A., and Matsunami, T.: The Bactericidal Activity of Fresh Normal Serum Alone and in Combination with Antimeningitis Serum for Meningococci, Jour. Immunology, May, 1918.

VERNAL CONJUNCTIVITIS—ITS TREATMENT BY APPLICATIONS OF RADIUM *

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Vernal conjunctivitis, or spring catarrh, is a chronic and very intractable affection of the conjunctiva, occurring chiefly in children and young adults, and, as its name implies, has its most decided manifestations in the spring and summer. It is a rather rare condition and is very frequently mistaken for trachoma, with which, however, it has little in common. It appears in two forms, one involving the conjunctiva of the eyeball and the other the conjunctiva of the upper lid. The first manifests itself in the form of brownish, uneven, hard nodules of gelatinous appearance at the limbus of the cornea, usually at the inner or outer side, which at times encroach on the cornea itself. This is the so-called limbus type. The other appears as broad, flat, fibrous masses, which have deep furrows between them, and project above the conjunctiva of the upper lid. In both types there is in addition a general injection and thickening of the conjunctiva, and an appearance as though

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* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 26, 1919.

it was covered with a thin layer of milk. As a rule, the two types are distinct, although in some instances they occur together as a mixed form. The limbus lesions are very different from those occurring in phlyctenular disease, in that they never break down and ulcerate but remain often for years with but very little variation in size.

The patients give a history usually of recurring attacks in the spring of the year, which commence as an ordinary catarrh, with some mucous discharge, and later intense itching and photophobia. The condition becomes worse during warm weather, making school attendance practically impossible, only to clear up again with the cool weather of the fall. The lid condition especially is frequently confounded with trachoma, but is to be distinguished in the first place by the history, and in the second place by the fact that the masses extend above the surface of the conjunctiva, instead of being partly buried in it; and also by the absence of infiltration and vascularity of the cornea. It is moreover not contagious, although there seems to be some proof that it may be hereditary, and it may occur in several members of the same family.

Usually it is found in otherwise perfectly healthy children, and persists in recurring regularly every year, for from three up to ten or even twenty years. When it disappears, it usually leaves no trace behind, so that the ultimate prognosis for vision is good; whereas in trachoma, the cornea is commonly involved after twelve to eighteen months and, unless the disease is eradicated, vision is greatly affected.

Treatment of vernal conjunctivitis has always been unsatisfactory. For years we have felt that simple cleansing lotions were most suitable. The addition of adrenalin to the boric acid solution (10 minims of the solution to the fluidounce) seems to relieve the itching for a time, and a 1 per cent. solution of holocain is also very soothing. During the height of the attack, dark glasses must be worn, and they may be combined with the glass correcting any refractive error. Various other remedies have been recommended, such as solutions of quinin sulphate, antipyrin and protargol, but silver solutions should be avoided, as they will cause blackening or argyrosis of the conjunctiva, if employed for any length of time. Ointments of salicylic acid and yellow oxid of mercury have also been tried, but we have come to rely on the boric acid with adrenalin and holocain.

For the cases which show the large, pavement-like masses on the eyelids, and the marked thickening about the limbus, treatment until recent years has been unavailing in removing the growths. Excision and rolling as in trachoma were not satisfactory, and the patients were treated symptomatically, until after years the growths disappeared. In recent years, however, as the result of the reported experiences of Abbè, Lawson, Schnaudigel, Shine, Harrison Butler and Allport, we have been employing radium, with gratifying results. In June, 1918, number of the *American Journal of Ophthalmology* I reported such a case in detail, and gave the literature to date. The patient was a boy of eleven years, who had been treated for five years at the eye dispensary of the University Hospital, without success, until in 1917 he was given a series of radium treatments by Dr. Henry K. Pancoast. In these treatments, from 35 to 50 mg. of radium were applied to the lids, the average time of exposure being fifteen minutes, and the result was the complete disappearance of the lid growths in four months time. During the past spring, there was a slight recurrence, but this was cured by one treatment, so that the patient has been very comfortable during the present summer, and the lids are now smooth.

During this year, Dr. Pancoast has treated for me four other patients. Of these two showed very pronounced development of the lid growths. One, the most extensive I have ever seen, was in a young man 22 years of age, who had been treated for trachoma for several months. He was given four treatments from April to August, and now shows very marked improvement, the greater part of the tarsal surface being free and showing very little roughening. In the other case, a girl of eight, after two treatments with 50 mg. for twenty minutes, at each application, the lid growths entirely disappeared, and the conjunctiva shows practically no scarring.

In a third case with moderate limbus thickening, and a general thickening of the palpebral conjunctiva, in a girl of eight, the limbus nodules disappeared, and except during the very hot weather of the past August, the child's symptoms were distinctly ameliorated. In the fourth patient, a young man of seventeen, with limbus thickening and marked hypertrophy of the conjunctiva suggesting a case of trachoma complicated by vernal catarrh, which was referred to me by Dr. P. N. K. Schwenk, one treatment with 50 mg. of radium produced a very decided reaction, with a slight burn of the conjunctiva, and a subsequent punctate cloudiness of the cornea. Appropriate treatment cleared up the corneal opacities, but the patient declined further radium treatments. The three pronounced palpebral cases, therefore, have been unqualified successes; one of the limbus type was greatly improved, and one patient refused treatment because of the reaction.

The treatments are made as follows: Cocain is instilled, and the upper lid is everted by a pair of catch forceps, which are held in position against the forehead by a strip of adhesive plaster. The radium is enclosed in a tube of aluminum, 5 mm. in thickness, and applied directly to the exposed conjunctiva. At first the tube was fixed in one position, in a clamp, for the time of treatment, which averaged fifteen minutes, but the cases showed a superficial white slough of the conjunctiva, at the point of contact, and in the later treatments the nurse has been instructed to move the tube to different positions, and the burn has been avoided. Most of the patients show some skin reaction, in the form of an erythema of the lower lids, and a loss of the eyelashes. The latter, however, have grown in again in every instance after several months.

We believe, therefore, that we can claim that the method is of great aid in curing these otherwise intractable cases. William Allen Pusy of Chicago has recently reported success with the use of small amounts of radium, applied daily in a varnish, in moderately pronounced cases, but we have found that in the bad types, the use of from 35 to 50 mg. for fifteen minutes, at intervals of two to four weeks, depending on the resulting reaction, have given us the most satisfactory improvement, and we believe the treatment should be better known, and more often employed.

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THE ROENTGEN DIAGNOSIS OF PULMONARY TUBERCULOSIS *

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In the early days of roentgen diagnosis the fluoroscope was regarded as superior to the plate for the detection of pulmonary lesions, but this was due to the fact that the tube exciting apparatus delivered energy sufficient for illumination of the screen but not sufficient for exposure of a plate within a time during which the patient could cease breathing. The diagnostic skill of Williams of Boston, who made reliable fluoroscopic readings of pulmonary lesions as early as 1896, will go down in the history of American roentgenology. The roentgenoscope still has its value in the determination of restrictions in diaphragmatic excursions, diaphragm adhesions, movements of the chest wall, displacements and pulsations of the heart and vessels and the presence of effusions, but while these observations are always important, they are secondary matters in the diagnosis of pulmonary tuberculosis.

The first important step toward accuracy in lung diagnosis was the production of apparatus and plates capable of making and recording rapid exposures. The exhibition of roentgenograms made in ten to twenty seconds, while the patient held his breath, marked a new epoch in diagnosis of intrathoracic conditions. Next followed the remarkably rapid exposures of one second with intensifying screens recorded by Ziemssen and Reider in 1901 and by Hulst without screens in 1902. These masterly accomplishments ushered in a period of study of lung anatomy and pathology and their correct interpretation from the roentgenogram. The subsequent step of adapting rapid exposures to stereoroentgenography brought the roentgenologist up to the present stage of perfected technic.

Unfortunately, during the progress of development of technic, the roentgenologist has been so much occupied with the perfection of the many details of a rapidly progressing science that he has been prone to neglect other important adjuvants to correct diagnosis, and the realization of this has dawned on him in recent years and is being corrected by a closer study of pathology and lung histology.

A few words relative to the correct technic for lung examinations may be pertinent to the discussion at this point. Correct diagnosis requires the most careful and accurate technic that is possible. All cases should be given a roentgenoscopic examination in order to obtain any data that may be furnished by this means and cannot be elicited from plates. In addition, at least one set of stereoscopic plates should be made. Single flat plates may be made in addition if desired, but dependence on flat plates alone is not compatible with accuracy.

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* Read by title before the Section on Medicine of the Medical Society of the State of Pennsylvania, Philadelphia Session, Sept. 25, 1918.

It is unfortunate that in the stress of war a large amount of lung diagnosis has had to be derived from single flat plates.

Thus far the examination can be made with entire satisfaction by any expert technician, but by far the most important rôle of the roentgenologist follows in the correct interpretation of the plates. This requires a large experience in reading chest roentgenograms, both normal and pathological, an intimate knowledge of the histology of lung structure and the pathological features of pulmonary diseases, and a familiarity with the clinical aspect of the disease in question.

A third requisite for accurate diagnosis in many instances is a comprehensive knowledge of the clinical aspect of the patient under examination. As long as the roentgen diagnosis of pulmonary tuberculosis is not an exact scientific procedure like the detection of fractures and opaque foreign bodies, and the supposedly characteristic roentgen appearances of tuberculosis are not pathognomonic, but may be presented by other conditions, clinical data must remain a more or less deciding factor in interpretation in a certain percentage of cases.

One purpose of this discussion is an attempt to analyze a tendency on the part of the internist to discredit the roentgen diagnosis of pulmonary tuberculosis and a disposition on the part of the roentgenologist to resent this attitude. Many explanations may be advanced, but chief among them would seem to be a failure on the part of the roentgenologist properly to regard the clinical aspect of the case, to attempt to make the roentgen diagnosis conform with the clinical data without adequate explanation, undue insistence on roentgenologic accuracy and a lack of proper respect for the diagnostic ability of the skilled internist. The importance of the roentgen diagnosis of pulmonary tuberculosis is so great at present, especially through the stress of war, that a conservative investigation of differences seems essential. Both internist and roentgenologist must reconcile themselves to regarding the roentgen examination as a part of the means to a correct end and not as a method of substitution for physical signs and the microscope.

The roentgen examination should be especially valuable in two definite groups of cases. In the first place, it should be capable of serving the frequently needed purpose not only of confirmatory evidence but also of a demonstration of the exact location, extent and nature of the process in the case of a positive diagnosis. Secondly, its far more important rôle should be its reliability as a means of supporting evidence in a case with suspicious but doubtful physical signs and negative sputum, by exhibiting evidence of a morbid process which presents the so-called characteristic appearances of tuberculosis but has not for some reason given rise to positive clinical signs. Or, on the other hand, the roentgen evidence may lead the internist to examine more carefully at some particular area when he may find the lacking signs.

In these days practically everyone is willing to grant the possibility of demonstrating a pulmonary lesion in the roentgenogram. The controversy between internist and roentgenologist seems to center around the possibility of determining an exact etiological diagnosis of tuberculosis from certain typical or characteristic roentgen appearances. The recognition of these appearances as evidences of the disease requires that they correspond to accepted pathologic features. If the truth be told, the roentgenologist, like the internist, is not able in all instances to distinguish between tuberculous and nontuberculous processes, especially in incipient lesions, but in this respect the roentgenologist has undoubtedly made unusual progress in the past few years.

After the development of a technic that would demonstrate fine lung detail the next important step was the establishment of characteristic appearances in order to differentiate tuberculosis from other pathologic processes. We have seen no reason for departing from the classification proposed by Cole many years ago. What in roentgen parlance he recognized as the earliest visible manifestation of the process he termed the individual tubercle. This term does not imply the pathologic entity as it is first formed, and either microscopic in size or barely visible on lung section, but a small shadow due to a tuberculous process which would be distinctly visible on section. Such an area when surrounded by a zone of infiltration and congestion creates a small visible shadow in the roentgenogram. A single shadow, however, does not indicate disease, but when numbers of them are found grouped in an area in the parenchyma or along one or more of the smaller linear shadows of the bronchial tree, they may be regarded as the characteristic appearances of tuberculosis, and as the first visible evidence of the disease, when they are found in the proper distribution of tuberculous lesions. We cannot concede, however, that this appearance, even in the proper distribution, is pathognomonic in every instance. Still larger areas than those just described are designated as conglomerate tubercles, and next in size, as areas of small consolidation. This classification of Cole has stood the test of time and has been rather generally adopted by roentgenologists.

Dunham has attempted to establish a diagnosis at even an earlier period, before definite mottling can be visualized, by his hazy fan-shaped area in the parenchyma at the terminations of the branching lines of the bronchial trunk shadow. The appearance is ascribed to an area of congestion and exudation arising from the presence of the tuberculous invasion. When detected by the experienced eye this appearance has frequently been the forerunner of an unmistakable lesion, but we do not believe it is a safe procedure to base a diagnosis of tuberculosis on such an appearance which is difficult of detection except by the most experienced eye and which may be due to other causes.

The second classification we have followed in describing appearances is based on the anatomical or histological distribution of the morbid process in its earlier stages, the hilus lesion, peribronchial infiltration, and infiltration in the parenchyma.

Hilus Lesions.—In the presence of such a manifestation the roentgenogram may show a decided increase in the hilus shadow on one or both sides. This may be more or less homogeneous or very variable in density and fairly regular or very irregular in outline. There is nothing typical of a tuberculous process in the appearance, and it may arise from other conditions, such as a neoplasm, be due to excessive dust inhalation, or be found to a minor extent in apparently healthy individuals. Unfortunately, this may be a difficult manifestation of the disease to detect clinically, especially if organisms are absent, and a definite etiological diagnosis cannot be made by the roentgenogram, but must be based largely on the clinical aspect of the case. In the presence of the symptom complex of tuberculosis, with or without organisms in the sputum, the roentgenogram will serve to indicate the location and extent of the lesion, in the absence of roentgen manifestations elsewhere. The clinical aspect must determine the policy of treatment.

Peribronchial Infiltration.—This term is a roentgenologic one employed to designate infiltration along the larger subdivisions of the bronchial tree. Following the usual early distribution of the process, the roentgen manifestations are a thickening of one or more bronchial trunk shadows extending upward from the hilus toward the apex together with some fine mottling surrounding the thickened linear shadows and due to the studding of small individual tubercles. This is quite characteristic of a tuberculous process but not pathognomonic. Isolated thickened linear apical markings alone cannot be so regarded, however, as they may be apparently normal or found as a result of a large number of processes. In a case presenting a suspicious symptom complex, such as cough, malaise, evening temperature, slightly elevated pulse rate, poor circulation and loss of weight, with or without organisms in the sputum which may be occasionally blood-tinged, and presenting indefinite or questionable physical signs over a certain area; if the roentgenogram presents such a characteristic appearance as has just been described, and without other manifestations, such an appearance can usually be regarded as indicating the seat, extent and character of the lesion. Unless the clinical aspect of the case is suspicious or positive, one must hesitate before daring to base an etiological diagnosis on such an appearance. An added value of the roentgenogram in a case of tuberculosis falling in this group is the possibility of demonstrating the extent of the lesion and the severity of the process, if active, as an aid in determining the policy of treatment. The determination of activity, however, is not within the usual province of the roentgenogram, as will be discussed later.

Lesions in the Parenchyma.—This is a roentgenologic term used to express the presence of the shadows of a group of visible individual or conglomerate tubercles in the portions of lung further out from the hilus, in the regions of the bronchioles and their terminations, where the branching bronchial trunk shadows have ceased or have become fine lines. This group includes the great majority of early cases, and is the only one in which the characteristic roentgen appearance or mottling can be regarded as typical of the disease. When one bears in mind the pathologic features of the disease and the usual distribution of the early tuberculous process this appearance can be regarded as indicative of the lesion in most instances, but there are exceptions, and the roentgenologist who bases an étiological diagnosis solely on it is bound to make serious mistakes in time. This is because the mottling by small shadows indicative of individual tubercles may be simulated by other processes, such as those attending the deposition of inorganic dusts, or the presence of blastomycosis and other mycotic infections. It is true that the distribution of the mottling will usually serve to differentiate tuberculosis from the other conditions. Tuberculosis may be generalized just as are the deposits in pneumoconiosis, but there is practically always evidence of other lesions, such as consolidations and cavities, unless the case is one of miliary or bronchopneumonic type. Then, of course, the clinical aspect is overwhelming evidence.

This type of lesion representing the large majority of early cases has comparatively few exceptions associated with the characteristic roentgen appearance. The question arises as to whether or not it is a safe procedure to base an etiological diagnosis on the roentgenogram alone in the absence of, or irrespective of, clinical evidence of the disease. This is a difficult question to answer for the reason that all of us must recognize the existence of both poor and inexperienced roentgenologists and mediocre clinicians. The experienced roentgenologist may assist and check up the latter but the expert internist is in no way dependent on the unskilled roentgenologist.

Activity.—Neither the roentgenologist nor the internist is able to decide between active and quiescent processes in all instances, but we believe that the solution should rest with the internist as a rule. The roentgenographic appearances indicative of activity have been divided into cellular, fibrous and calcific. From the pathologic standpoint this implies active areas, those undergoing fibrous changes or encapsulation and those that have healed and have undergone calcification. Fibrosed and calcified areas represent comparatively large deposits, for the reason that when small individual tubercles get well, the surrounding exudation and congestion that have rendered them visible disappear and the resulting healed area must be too small to be visible. It will be seen that the determination of activity becomes largely a differentiation of density, and this cannot be an accurate index. It is granted, of course, that one can readily differentiate between an active process and a calcified lesion, but the difference between an active individual tubercle and one that has recently become inactive must be very difficult to detect accurately. It must be borne in mind that active and quiescent processes frequently coexist. Possibly chronicity can very often be determined by the roentgenogram, but we believe that activity must be decided clinically.

Fibrosis.—This is an end result but deserves special attention for the reason that it is not a result peculiar to tuberculosis, but may follow a large number of inflammatory or semi-inflammatory processes, and the mere presence of fibrous changes has very often been erroneously interpreted as indicative of a tuberculous process. To prove in any case presenting marked fibrosis that it is the result of tuberculosis, the fibrosis must have the proper anatomical distribution, or there must be present more recent evidences of tuberculosis, or there must be proven an antecedent tuberculous history.

Pleural Complications.—The roentgen examination is a most valuable means of studying pleural thickening, adhesions, effusions and pneumothorax.

In conclusion, it must be admitted that in the roentgen examination we have a very valuable asset to the clinical and bacterial means of diagnosis in pulmonary tuberculosis. It is not intended to supplant the other well-established methods, but to extend our means of accurate diagnosis. The proof of the accuracy of roentgen diagnosis lies along three directions: conformity with the clinical deductions of skilled internists, the subsequent developments in cases examined and at necropsy. The latter is of little value as proof of roentgen accuracy. A closer cooperation between roentgenologist and internist will yield the best proof of the value of roentgenology in the future, as well as becoming the best means of developing its usefulness.

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DISCUSSION

Dr. J. Wesley Ellenberger, Harrisburg: The pathologist teaches that at least 90 per cent. of those examined postmortem show evidence of having had tuberculosis. He also tells that about 15 per cent. of the deaths in the land are due to this cause. The tuberculosis expert claims that most of these deaths might have been prevented if only the condition had been recognized in time. The family physician states that in not a few instances he has much difficulty in making such an early recognition, and all of the rest of us confess to similar experiences.

More than once, expert diagnosticians have disagreed as to the presence of the infection in a given patient. Occasionally men have been pronounced free from it, and the subsequent history has shown that the opinion was erroneous, to the discredit of the physician and the serious injury of the patient. Or the patients have been declared tuberculous, and the later history has belied the diagnosis. The public has such a fear of this disease that it is a serious thing for one to be erroneously branded as its victim.

The army surgeon tells us of the soldier, who breaks under the strain of military life and who is found to have pulmonary tuberculosis. He tells us that the disease existed prior to the enlistment, that it was not recognized and that this failure has been responsible for the chronic illness and death of the victim. He also tells us of the experience of the French army, which in its first year of war discharged 86,000 men as tuberculous and later found that at least 50 per cent. of these men were not so afflicted. Indeed, there is reason to believe that only about 20 per cent. of them should have been so discharged.[1]

Anything which will make easier the recognition of incipient pulmonary tuberculosis will receive a warm welcome from many physicians. The roentgen ray has been used for this purpose and its value is attested to by a large number of reliable men. Ten or twelve years ago, when flat plates were used, it was recognized that much light was shed on chest conditions by its use. But it was in the old rather than in incipient cases that it was most helpful. Today the stereoscopic plates show much more than did the single flat ones. Yet, here again, it is more valuable in the old than in the early cases.

Much attention has been given to this subject in the army. Circular No. 20, issued by the Surgeon-General, is an authoritative statement of the views formulated as a result of these studies. The relative merits of the fluoroscope and the skiagraph are summarized thus: "Only well-marked pathologic changes are revealed by radioscopy. For the accurate diagnosis of tuberculosis recourse should always be had to the study of the roentgen-ray negative." The circular then calls attention to the sharp outlines of old conditions, as calcifications and fibroses, and the fuzziness of acute conditions. The early pathologic changes are of such a character that the roentgen ray penetrates them, and casts no shadows. As the process continues, as the connective tissue increases, the impenetrability increases and the rays produce shadows, at first vaguely outlined and not dense, but in advanced cases clearly outlined and very distinctive.

However, in acute conditions, and especially in incipient ones, the very class in which we have most difficulty, it is not an infallible guide. In fact there is but one pathognomonic sign of pulmonary tuberculosis; viz.: the tubercle bacillus, and that is not present in the sputum in the incipient cases.

We are safe in stating that advanced tuberculosis is easily recognized by the roentgen ray; that cavities, fibroses, and calcifications may be easily found and accurately located; that in many but not in all acute conditions we may obtain a real help from radiography. It is, however, merely one more help which may be added to the numerous other indications which singly are not very conclusive, but which collectively, in most cases, make a definite diagnosis possible.

In the opinion of many the roentgen ray is inferior to the help given by a physical examination. We may not yet discard the well known aid of a painstaking history, a careful physical examination and especially a watchful waiting as we study the progress of the infection in the patient.

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[1] Bushnell: J. A. M. A., Vol. 70, No. 10.

AUTOGENOUS ONE-PIECE EPITHELIAL GRAFTS FOR THE RESTORATION OF THE EYELIDS: WITH THE REPORT OF CASES *

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While the present communication may contain little that is new or original yet the writer feels justified in presenting or repeating a technic which has served him well during the last ten or fifteen years. It was the writer's privilege to present a communication on the restoration of the eyelids to this section, when our state society met here in Philadelphia some years ago, detailing the technic and reporting several cases; since then it has been the writer's privilege to further demonstrate and improve the technic and good results described at that time. In addition to all this, the present time seems especially fitting to call your attention to the correction of a deformity which may, in the near future, be decidedly more common than in the past.

In the natural course of our industrial life, for peace hath its victims no less than war, it is not uncommon for accidents to result in more or less destruction in the facial contour. Eyelids are torn, lacerated and often destroyed as the result of burns. Fortunately these burns, while severe, as a rule destroy the skin and a portion of the substrata only, leaving the underlying muscles intact. The real deformity resulting from the immense contraction following the skin destruction, producing an eversion of the conjunctiva and a constant and persistent exposure of the eyeball, which, if not corrected, will result in a destruction of the transparency of the cornea and an eventual loss of vision and often of the eyeball itself.

The problem then becomes a very simple one, for all that is necessary is to so separate the resulting cicatrix as to expose and replace the contracted muscles to their former position, cover them with an epithelial layer to keep them so and the desired result is obtained, not only a restored lid covering and protecting the eyeball but a normally functionating lid responding to all the physiological movements of the normal lid. While this statement is perfectly true in every respect, the real problem is to so cover the defect that, when the final shrinking or con-

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* Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of Pennsylvania, Philadelphia Session, Sept. 24, 1918.

traction in the graft has taken place, it will be sufficient. In the previous communication, already referred to, the writer drew especial attention to this immense shrinking which takes place in these grafts and again emphasizes it now, for good results depend entirely on how adequately this shrinking has been anticipated.

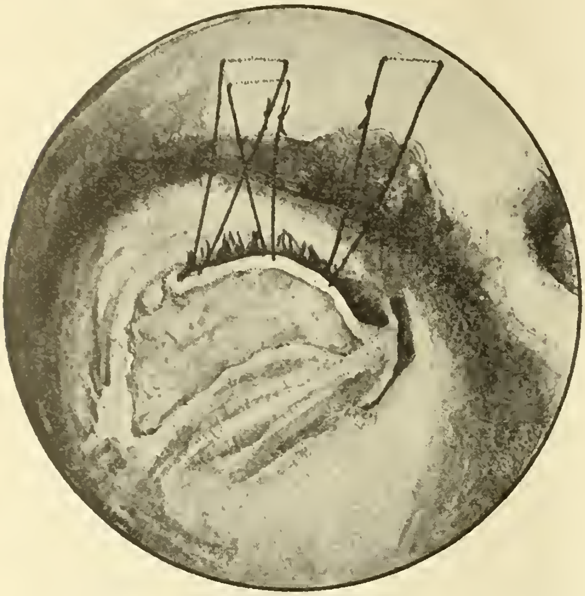

Fig. 1.—After dissection, over-correcting deformity so that lower lid is carried over uper lid and held in place by sutures.

The choice between an epithelial graft and a whole-skin graft or transplantation with or without a pedicle needs no argument, the facts speak for themselves, the epithelial graft results in a thin, pliable skin surface, which in some instances, especially in the negro, can scarcely be distinguished from the surrounding normal skin, while the whole-skin transplantation or graft is more or less thick, bulky and in itself a deformity.

The routine followed in these cases is as follows: On admission to the hospital, preparatory to the operation, the patient is given a full bath, the head is shampooed and the face is ordered to be carefully washed with rather warm water and soap three times daily for three days. The patient's alimentary tract is looked after and his diet is restricted. The skin of his arms is carefully inspected, the one showing the cleanest skin free from defects, etc., is the one selected from which the graft is to be taken. This arm is then ordered to be "scrubbed" daily for three consecutive simultaneous days with the "scrubbing" of the face and after each scrubbing with hot water and ethereal soap, and a rinsing with alcohol, the arm is covered with sterile gauze and bandaged. The final or third bandage is allowed to remain until the graft is to be excised or shaved off. On the fourth day the patient is ready for the operation. During the preparation neither the eye or the face is covered at any time with a dressing; if the exposed conjunctival surface is dry or irritable a bit of bichlorid vaselin, 1 to 3,000, is applied several times daily to keep it moist. A general anesthetic is used as it is very desirable to have all the muscles thoroughly relaxed. Ether is the anesthetic of choice and during the administration of this the eyes are carefully covered with sterile gauze.

The operation conveniently divides itself into the four distinct stages: (1) Dissection of the lid so as to expose and prepare the underlying muscles; (2) fixing the lid in a stretched position by anchoring it with several gut sutures; (3) excision of the graft; (4) placing of the graft in position, dressing and bandage.

The first incision is made parallel with and about 3 millimeters from the lid margin, or if this has been destroyed from the conjunctival border, cutting just deep enough to cut through the skin or scar tissue and extending it along the entire length of the lid or at least well beyond the point of eversion.

This gap is carefully widened by dissecting, superficially, the skin beyond and through the entire length of the incision. The lid margin is then grasped and pulled up or down as the case may be, up if a lower lid, down if an upper lid, and the dissection carried on till the lid can easily be stretched to a point far beyond the requirements of the lid, so that the middle part of the lid margin can be placed as far above the

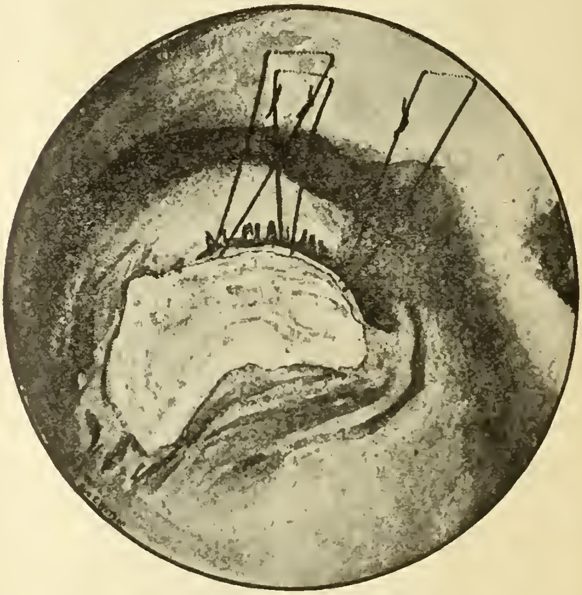

Fig. 2.—Denuded area covered with skin graft.

normal line as it was below it in its preoperative state (Figs. 1 and 2). The bleeding from the raw surface is easily controlled; if there are any small spurting points, these can be grasped and twisted slightly with small artery forceps; the general oozing yields promptly to a few hot wet pads.

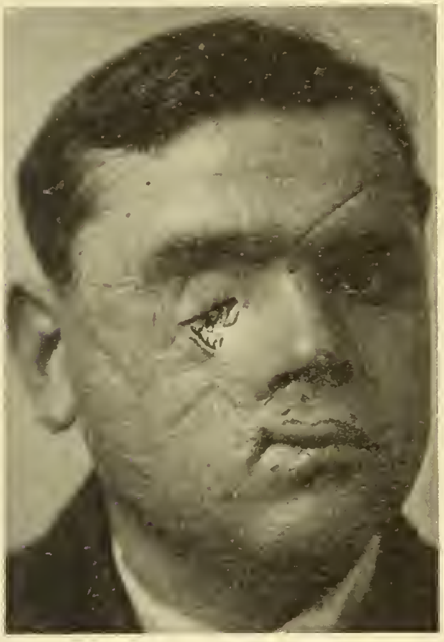

Fig. 3.—Before operation.

There is of course a decided redundancy in the length of the lid margin, depending on the case; sometimes the length is increased to almost twice that of normal or what it originally was. This increase is simply the result of stretching process; nature takes care of it very nicely after the operation and it should never be interfered with; that is, to attempt to excise a V-shaped piece is absolutely wrong and should never be done. The final shrinking takes care of this as will be illustrated by cases to be reported and pictures shown.

The second step in the operation consists of stretching and anchoring the lid. A strong silk suture is used for this purpose with a needle at either end. First one needle is passed at the middle of the lid and the greatest width of the defect to be covered by passing the needle parallel with the plane of the lid from the raw surface at about the middle of thickness of the lid margin; the other needle of the same suture is passed in a like manner about 3 mm. from it. One needle is now unthreaded and the other, after holding the suture taut and putting the lid on a stretch, is passed either in the forehead or on the cheek, depending on whether it is upper or lower lid, and the two ends tied so as to hold the lid stretched. In addition another similar gut suture is inserted on either side so as to put the entire lid on a stretch. This is then carefully covered temporarily with a wet pad of cotton.

The third step consists of excising or shaving off the epithelial graft. The dressing is removed and the prepared arm exposed. It is again washed with hot water and ethereal soap, mixed with alcohol and finally copiously douched with warm normal salt solution.

The arm is firmly held by an assistant. In order to put the skin surface on a stretch and flatten it so as to facilitate the removal of the graft, two pieces of wood are used, one held by an assistant, the other by the operator. These pieces of wood are 2½ x 5 x ¼ inches, and have been previously sterilized by boling. The graft is then shaved off by means of an ordinary rather broad, sharp razor. The blade is held parallel on the surface of the skin, is so directed as to shave off a thin section only, just cutting off the papillae of the true skin.

With a little care it is quite a simple matter to get a one-piece graft of more than sufficient size to cover the defect. The excised graft is immediately placed in a warm normal salt solution. The raw surface on the arm is dressed by placing over it a sterilized piece of gauze over which some bichlorid vaselin 1 to 3,000 has been smeared and confined by means of a roller bandage. This dressing is not disturbed for

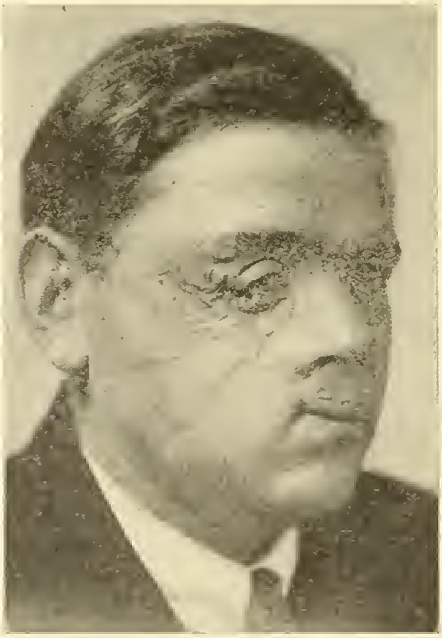

Fig. 4.—After operation. Operation done December, 1914.

several days after which it is redressed at intervals of a few days. Healing and epithelialization is quite prompt and perfect so that little or no scar remains.

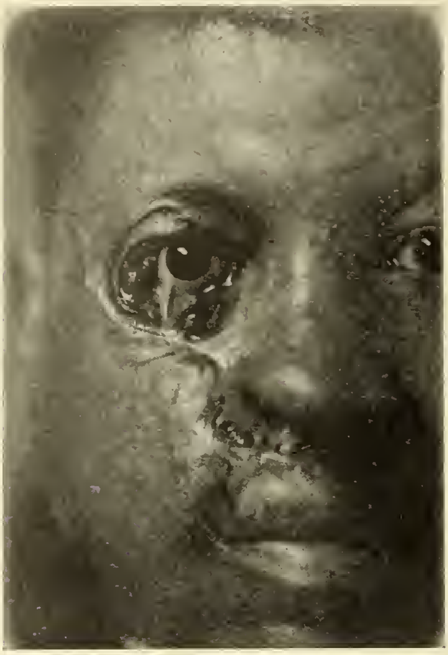

Fig. 5.—Before operation.

The fourth step is the placing of the graft. The raw surface is never again exposed and should be dry, clean and free from any bleeding. The graft is now carefully spread out over the raw surface to be covered and carefully pressed into place. The portions extending beyond are carefully excised with small sharp scissors, being careful to allow a little overlapping; in other words, the graft should be just a bit too large all the way around. The graft is then covered with a piece of gutta percha tissue cut so as to be a little larger than the graft and perforated at a number of places by nicking with scissors. A bit of wet cotton is now carefully moulded into shape as large as the gutta percha tissue and about a quarter of an inch thick, being careful to get it of an extra thickness; this is then carefully placed over the gutta percha tissue. This is then covered with a piece of gutta percha tissue without perforation so as to prevent the underlying cotton pad from drying out too soon. This is then covered with a pad of sterile gauze slightly larger than the other pads; this is then held in place by a few adhesive straps so as to prevent any slipping during the placing of these at the seat of the dressing and bandage. Over this is placed a rather large pad of sterile gauze about 2½ x 5 inches and over this a similar pad of cotton. The ear on the corresponding side is protected by cotton and the whole confined by means of a 2-inch roller bandage, carefully but firmly applied by including the ear.

It is very important to apply the roller bandage with care as it is very essential, in fact, it is absolutely necessary, to so apply it that the bandage will not slip.

This dressing is allowed to remain for from four to seven days. If the patient is comfortable, the bandage nicely in place and no odor, it is better to let it remain six or seven days. The chief essential for the taking of the graft is that it be held firmly and evenly in place.

At the end of from four to seven days the dressing is carefully removed and carefully washed off with a warm normal salt solution. At the same time the conjunctival sac can also be flushed out some. If the gut sutures are put in place sometimes one or more are found to have cut through the lid margins, if so they should be removed. They may remain for another day or two but not longer. The second dressing should be done in the same manner as the first and daily thereafter for three or four days after which the bandage may be omitted and the graft thoroughly covered with bichlorid vaselin 1 to 3,000 and the entire area protected by a wire gauze protector.

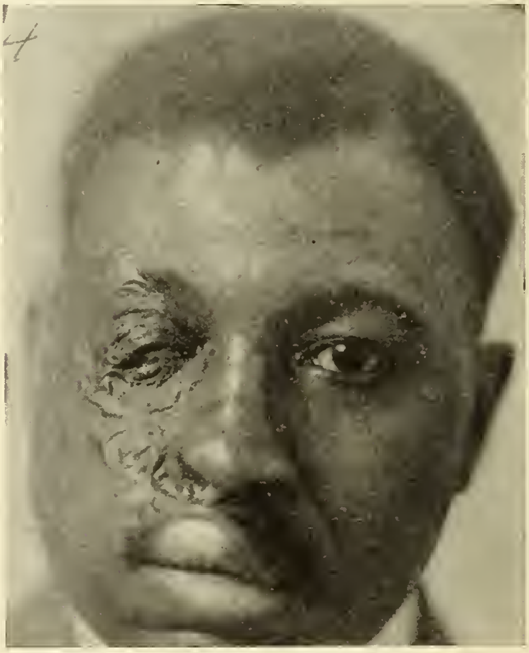

Fig. 6.—After operation. Operation done April and May, 1917.

The eye is flushed and cleansed once daily thereafter for about one week when the wire gauze protector may be omitted. The bichlorid vaselin is continued, however, and when the patient leaves the hospital after about two weeks he is given some bichlorid vaselin 1 to 3,000 and asked to anoint and massage the grafted surface several times a day; this is continued for some weeks.

From the description of the technic it goes without saying that when both eyelids are involved the operation must be divided as it is impossible to attempt to restore both lids as the result of one operation.

The cases shown in the accompanying pictures serve to illustrate the paper.

Jenkins Building.

DISCUSSION

Dr. William Zentmayer, Philadelphia: I want to speak of the method which Dr. W. R. Parker has shown me; that is, to anoint the surface of the part from which the graft is to be removed with sterile vaselin. In doing this it allows the graft to keep its position, and to be transferred immediately to the denuded area without transferring it to a salt solution.

Dr. Samuel D. Risley, Philadelphia: I wish to thank Dr. Heckel for the clear presentation of this very useful surgical procedure. Some years ago before the Ophthalmological Section of the American Medical Association I presented my own method of procedure for the cure of malignant growths at the border of the lid. Having scraped the epitheliomatous tissue thoroughly away, one of these very thin, epithelial grafts was placed in situ. The results were so good that I have only words of commendation for the procedure. My technic differs in one respect from that employed by Dr. Heckel. Instead of placing the graft in physiological salt or other solution, I do not remove it from the razor; but having cut it to the desired size spread it right over the denuded surface from the edge of the razor, a procedure which in my experience seems more satisfactory than to recover the graft from the solution where it is so liable to shrink and curl up.

Dr. Edward A. Shumway, Philadelphia: I wish to call attention to a new dressing, which has been made by one of the large surgical houses, of so-called rubber-mesh. It is a mesh of gauze made of rubber. It comes in sheets which are put up in sterile packets, and it can be easily cut with a pair of scissors. When placed directly against the skin it makes an exceedingly nice and clean dressing which is easily removed, and does not adhere to the flap.

Dr. Burton Chance, Philadelphia: I rise simply to commend the skin transplant to those who have not pursued this method. I am reminded by one of the remarks made as to the apparent superficiality of the burn. The deeper structures are not so badly damaged, but the contraction is through the shortening of the skin. I have under my observation at Hospital No. 11, at Cape May, several cases of extensive burns of the head, in which the underlying tissues are not badly damaged at all. The contractions are not of the muscles, but are due to the burning of the skin, so that in one or two instances the complete action of the muscles is obtained.

DIURNAL AND OTHER VARIATIONS IN BOOD PRESSURE *

ARTHUR LLOYD PARKS, M.D.
ROME

During the past twenty years blood pressure estimations have become recognized as a necessary procedure. It is within the past few years only, however, that a considerable number of physicians and surgeons have given the matter serious thought and study and it is true today that not a great number practice the procedure of taking blood pressure in a strictly scientific manner. Some few physicians have abandoned its use. Blood pressure determinations, as frequently made, are without value to the examiner and are, I believe, rather frequently a detriment to the patient as I shall show later.

Very often one sees an inquiry in the journals, "What shall I do for a patient with high blood pressure?" It would be as reasonable, and perhaps more so, to ask, What shall I do for a patient with high temperature? The fact is mentioned simply to show what a vague thing blood pressure is to certain ones.

To be of practical diagnostic value blood pressure determinations must be taken with a knowledge of certain facts concerning it: A reliable instrument should be used; a sufficient number of readings should be made; proper technic; both the diastolic and systolic readings should be made and recorded; physiological variations should be considered; a full knowledge of the mechanics of circulation; the habits, age, and a careful history of the patient; a daily use of the sphygmomanometer; a complete physical examination of the patient.

The diagnosis and prognosis of pathologic conditions in which blood pressure plays a rôle will depend on the examiner's ability to draw conclusions from the sum total of this knowledge. One should familiarize himself with the variations in blood pressure, thus avoiding erroneous conclusions in many instances. Let it be borne in mind that the systolic pressure is the sensitive or fluctuating pressure, while the diastolic pressure is subject to much less variation and therefore serves as a check on high systolic pressure. Basing my judgment on results from over 1,400 readings I feel safe in saying that the dangerously high pressure in one individual is not always pathologic in another.

The cuff of the instrument must be on a plane with the heart, otherwise gravity plays

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* Read before the Bradford County Medical Society, April 8, 1919.

a part. If the cuff is above, the reading will be too low; if it is below the reading will be too high. The systolic pressure is influenced by exercise. It may rise 5 to 10 mm. Fatigue due to excessive exercise causes a fall. Pressure taken of 21 persons during sleep showed an average fall of 14 mm., which is probably due to vasodilatation. Readings taken in 55 instances after meals gave an increased pressure which decreased before the following meal. Forced breathing raised the pressure in a number of individuals 5 to 15 mm. Continued constriction with the armlet will cause a rise of from 10 to 18 mm. The time consumed in using it should, therefore, be reduced to a minimum.

Increased viscosity of the blood with its increased friction within the vessels causing a tendency toward capillary blocking has to do with variations in blood pressure readings. Hemenway claims that blood pressure is higher on dry days and low when there is an excess of atmospheric moisture. He explains the variation by saying that on a dry day the atmosphere takes moisture rapidly from the skin; the skin supplies the loss by abstracting more from the blood; and in consequence the blood becomes less fluid, and therefore flows with greater difficulty. On a moist day there is less loss of moisture from the skin and less reduction in the fluidity of the blood. Edema may cause a misinterpretation.

The pressure and time required to free the tissues from the fluid may give an incorrect result. Hensen reports an error of 20 mm. Hg in a certain case. The systolic pressure shows a slight ascent during the day while the diastolic pressure remains quite constant even after the ingestion of food. A study at the front shows that the explosion of large shells near at hand causes a distinct rise in the systolic, diastolic and pulse pressure. The pressure usually becomes normal within an hour.

The rôle of emotions is well shown by Dearborn, who states that it is only by repeating the measurements every minute or two for a half hour on several successive days, care being taken in interpretation to avoid all known sources of high pressure, that a correct estimate may be obtained. He found that the pressure is raised by tones of unpleasantness, anxiety, etc. I am positive that worry increases the systolic pressure and in a number of cases where it was possible to remove the cause the pressure fell remarkably.

The laity begins to talk about blood pressure as they would about influenza. Mrs. B. said her husband could not attend grange the other evening because the doctor said he had blood pressure.

A very intelligent man, 45 years of age, came to my office last fall in a frenzy; he was scared to death. Having suffered some slight ailment the previous week while in New Jersey a physician was called to see him and told him his blood pressure was 160 and he must get home and go to bed and stay there for some time. I took his pressure daily for several days. At the beginning it was 180 systolic, 100 diastolic. After a week's lecturing to him I found his systolic reading was 140, diastolic 90.

People are being unnecessarily frightened by being told they have exceedingly high blood pressure. When a patient becomes truly scared over his blood pressure the physician has more to treat than hypertension.

If a patient has an abnormally high systolic pressure, do not become alarmed, do not send the creeps over your patient, and do not impress the patient that you are going to treat his high blood pressure. Tell him you are going to take time to look thoroughly into his case and try to determine the cause of his increased pressure, and do it. Do not fear the use of digitalis simply because of the hypertension, which I have seen fall under its influence. Do not fail to keep a chart of the diastolic, systolic and pulse pressure. To quote E. H. Goodman[1]: "The reduction of blood pressure by medication should be controlled at every step by the sphygmomanometer. An important fact must not be overlooked, namely, that high blood pressure is often a necessary accompaniment of altered function and structure and were it not for this raised pressure life could not be carried on with these functional or organic changes."

Personally, I believe that a new *blood pressure equilibrium,* or ratio, frequently due to functional or organic changes, is established and is quite physiological. I have in mind at this minute a man with a systolic pressure of 200 which I do not believe abnormal for that particular person, while I have another in mind with a systolic pressure of 130 which I consider extreme hypertension in that case.

In closing this brief paper I suggest the following: If you cannot already do so, be sure you learn to record the diastolic pressure. Always put the arm band next to the skin and with no constricting clothing above. Do not be too anxious to bring the pressure down; you may bring your patient down with it. Be careful not to use heroic doses of the nitrite group until your diagnosis of the cause is made. On several occasions I have seen good men place the band over the dress sleeve and undergarments. Diagnose the cause of the pressure if possible. If it can not be determined, advise rest, moderate exercise, largely a milk diet to which should be added a solution of sodium citrate, and digitalis.

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[1] N. Y. Med. Jour., July 24, 1915.

SYPHILIS OF THE MOUTH AND PHARYNX *

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Robert Packer Hospital
SAYRE

In a general way three points present themselves in syphilis of the mouth and pharynx: (1) The mouth and throat are the most common site for secondary and tertiary lesions to appear; (2) excepting when primary, the lesions are a local manifestation of constitutional disease; (3) the treatment is local only when palliation is required in addition to the really important constitutional medication. In this paper we will not embark on the sea of specific medication and yet wish to emphasize the amenability of the disease to medication and the importance of curtailing its ravages early in order to avoid unfortunate and disastrous sequelae and deformities.

The primary lesion or chancre is far more common in the mouth and pharynx than is generally believed and often escapes discovery owing to the insignificance of the lesion, undue carelessness on the part of the patient, or the indiscriminate application of local remedies, caustics and even the knife. The lesion is found on the lips, tongue, palate, faucial pillars, tonsils and rarely on the posterior pharyngeal wall. Let us remember that perversion is not the greatest source, but rather indiscriminate kissing, contact with infected fingers, knives, forks, drinking cups, etc., or the unclean instruments of physicians and dentists. Given any of these sources plus a break in the mucous membrane and a great many of the unfortunate pictures of later years can easily be understood. Contrary to general belief, the lesion does not always appear singly and often loses or never acquires the characteristic picture for reasons already given. We do not hesitate to state that primary lesion of syphilis in the mouth is more often innocently acquired and that the tertiary stage is often reached before any further evidence of its presence manifests itself. Bearing this in mind, and also the fact that the healed lesion usually leaves little or no scar in the mucous membrane, we can see how important it is not to place too much reliance on waiting for secondaries, but rather on looking for spirocheta in the shadow and, if found, the prompt use of specific medication.

The mucous patch, about which we all hear and read so much and occasionally see, is unfortunately too often looked for to the exclusion of other equally important lesions. It is simply one of the pathological forms by which the lesion manifests itself in its variations from erythema to superficial ulceration. It is not a true ulcer but is a result of necrosis of superficial epithelia, is not elevated as commonly taught, and is surrounded by a narrow zone of redness. It is a persistent lesion and is not limited to the secondary stage but often makes its appearance in the tertiary. The chief site is on the soft palate, uvula, and tonsils but occurs on the cheeks, especially opposite an irritating and jagged tooth, the gums, tongue, and inner border of the lips. Erythema is far more common clinically than the mucous patch, but its relation to syphilis is not sufficiently emphasized, and the absence of skin lesions should not greatly influence our judgment. Of course, we should look for other lesions but dare not be led astray by their absence. Headache, particularly nocturnal and persistent, with or without rise in temperature, will often be complained of. If coupled with this the patient gives a history of having had a very sore throat lasting for several weeks one should be suspicious as ordinary sore throats do not last nearly so long. The lips are often chapped and sore. Too much reliance must not be placed on pain. Patients may complain bitterly of pain in the throat and neck in this disease; in fact, the entire clinical picture may be that of an acute pharyngitis (so-called "rheumatic" sore throat or tonsillitis), including rise in temperature, cervical adenitis and the subjective symptoms that accompany acute tonsillitis. It also shows the tendency to respond to local measures, only to recur. Bald patches sometimes occur on the tongue caused by the destruction of the papillae, or, again, the opposite condition, hypertrophy of the papillae causing little warty outgrowths, glossitis; the dry fissured tongue and fissures at the commissures of the lips are suggestive. Little warty outgrowths often occur on the tonsils.

The tertiary lesion exhibits its ravages in several different ways and as far as time is concerned lesions usually ascribed to the secondary stage may be present in the tertiary. This holds true with scarcely a time limit. The lesions

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* Read before the Bradford County Medical Society, April 8, 1919.

regarded generally as tertiary are diffuse or circumscribed inflammatory infiltration, induration and swelling, gumma formation and superficial and deep ulceration. The tertiary lesions, when occurring in the pharynx, are most usually situated on the posterior pharyngeal wall in the form of painful swellings of various size which undergo superficial and deep ulceration and are accompanied by mucopurulent discharge. The lesions are destructive, and when occurring also in the soft palate cause adhesions and deformity with the accompanying disturbance of speech and deglutition very much like that seen in cleft palate. The tonsils may be entirely destroyed by deep ulceration and necrosis. The necrotic process may involve the hard palate and upper and lower jaw bones. In fact, this destruction may take place in any of the hard or soft tissues about the mouth and throat. The gums in either the secondary or tertiary stage are likely to become swollen and tender, bleed easily, and pyorrhea often gains a foothold, destroying the teeth. Gummata are of very frequent occurrence in the tongue, usually on the dorsum near the center. They also undergo necrosis and leave a deep excavated ulcer with indurated edges much resembling epithelioma. Again, the lesion may take the form of bald patches, the dry, glazed fissured tongue, leukoplakia, going on to psoriasis and ichthyosis, and finally epithelioma.

The secondary lesions of congenital syphilis in the mouth and pharynx usually appear as erythema or mucous patches during the first few weeks after birth. The tertiary lesions from four to twenty years are the typical gumma and ulceration. These congenital lesions either secondary or tertiary are identically the same as the acquired. Hutchinson's teeth are stigmata of congenital syphilis. One of the most difficult problems in differential diagnosis sometimes presents itself in the similarity of some of these syphilitic to tuberculous lesions. It is sometimes impossible to distinguish them clinically with certainty. Usually, however, we can find other accompanying lesions of either disease, especially that of tuberculosis of the lungs which with the aid of the Wassermann and therapeutic tests and the microscope will clear up the diagnosis. When tuberculosis is suspected, the iodid test should carefully be watched for aggravation of the lesion. We must not forget that syphilis and tuberculosis may exist in the same lesion. Epithelioma is sometimes hard to differentiate. The tests are the same.

We cannot, therefore, always make a dependable diagnosis on a characteristic clinical picture in the mouth and throat nor expect carefully to distinguish between the second and third stages of this disease by local inspection because of their interlacing and merging into one another, nor can we depend on history. The Wassermann test is far more accurate and trustworthy and should always be done when the least doubt exists. It is not understood, however, that the Wassermann test is always final, especially only one test, but a positive reaction is practically final. There are a few exceptions to this but they are so few as scarcely to require attention. A negative reaction is not so nearly final—another test may prove positive. This is often found to be the case if the patient has been given a provocative or placed on mixed treatment for a period of ten days or two weeks. Rarely a negative reaction persists in spite of a specific lesion.

SELECTIONS

THE ALLIED MEDICAL ASSOCIATIONS OF AMERICA

Another Rocket in the Pyrotechnics of Quasi-Medical Organizations

It was once said, in the days when diploma mills flourished, that it seemed easier to start a "university" than it was to open a grog shop. A study of quasi-medical organizations convinces one that it is easier to found a "medical society" than it is to establish a peanut stand. Most reputable practitioners of medicine who care to affiliate themselves with medical organizations are members of the American Medical Association, its component societies, or similar scientific bodies. It is not surprising, then, that those who live and move in the twilight zone of professionalism, from visionaries riding bizarre medical hobbies to those who have special interests to exploit, should create and make use of hybrid medical organizations. Such organizations multiply with the fecundity of rabbits. They flourish for a while, obtain more or less newspaper and other publicity—usually more, because of the sensational methods of those controlling them—then, having served the purpose of those who brought them into being, they lapse into innocuous desuetude.

The official accouchement of the Allied Medical Associations of America occurred, according to that organization's report, May 18, 1918. On the official stationery of the Allied Medical Associations of America in use in May, 1919, we find the names of the "Officers," "Censors," etc. These constitute, presumably, the more prominent members of this organization. We give briefly, some data regarding some of these so that a rational perspective may be obtained:

L. M. Ottofy, M.D., St. Louis, Mo.—Dr. Ottofy seems to have been the chief organizer, if not, indeed, the founder. He has been its "Secretary-Treasurer" since its inception; he is also "editor" of its journal. Ottofy, according to our records, was born in 1865 at Budapest, Hungary, and was graduated in 1888 by the Homeopathic Medical College of Missouri.

In December, 1911, numerous newspaper clippings show that Dr. Ottofy was obtaining much publicity relative to his antivaccination activities. At that time the papers reported that Ottofy was suing the St. Louis Board of Education for $25,000 damages, because the Board would not admit to the schools of the city a child he had "internally" vaccinated. In November, 1913, the St. Louis *Republic* reported that Ottofy had claimed to have discovered a serum for the cure of cancer, and quoted Ottofy as claiming "a record of 72 per cent. of cures" in "selected cases." In February, 1914, the newspapers reported that Ottofy was making a trip east "on the trail of radium for use in his practice in the cure of cancer" and quoted him as stating: "I have learned on good authority that there is radium in Missouri, and just where I refuse to divulge at this time." In January, 1915, the St. Louis *Republic* reported that Ottofy, at a meeting of the "St. Louis Society of Medical Research," had announced that he had perfected a serum treatment for cancer, which "is curing patients who have been pronounced incurable by so-called 'cancer experts.'" In January, 1916, the St. Louis *Star* reported that Ottofy had sought an injunction against the Board of Education of St. Louis to restrain it from using its funds for "the maintenance of a Board of Hygiene." In July, 1916, St. Louis papers recorded that Ottofy, who was then running for coroner, had been cited to appear before the Prosecuting Attorney to explain a charge of passing out, at a political meeting, a card alleged to have borne an indecent drawing of President Wilson. The Prosecuting Attorney was said to have instructed Ottofy to bring the plates from which the cards were printed to his office. Two days later the papers stated that Ottofy had sent the cards and plates by messenger to the prosecuting attorney's office.

Ignatz Mayer, M.D., Detroit, Mich.—Mayer, "President" of the organization, according to our records, was born in Austria in 1860, and was graduated by the Medico-Chirurgical College of Philadelphia in 1894. Mayer, according to advertisements that have appeared in Detroit papers, is a "registered physician and surgeon specializing exclusively in the cure of rupture without detention from occupation." The Mayer advertisements have notified the ruptured of Detroit and vicinity (*via* Detroit newspapers) that hernia keeps one down in health and earning capacity and "there is no need for this. I have cured over 4,000 patients in twenty years continuous practice in the cure of rupture."

N. La Doit Johnson, M.D., Chicago.—Dr. Johnson's name appears as the "First Vice-President" of the Allied Medical Associations of America. A few years ago, Dr. Johnson's name also appeared as the "Dean of the Faculty" of the "American Post Graduate School." This "school" was a mail-order concern which, according to the "Annual Announcement," would grant diplomas and confer degrees as follows: "Master of Surgery," "Bachelor of Medicine," "Bachelor of Science," "Master of Electro-Therapy," "Doctor of Osteopathy," "Doctor of Psychology," "Master of Massage," etc.

H. M. Goehring, D.O., M.D., Pittsburgh, Pa.—The "Second Vice-President," according to the letterheads of the "Association" carries the letters D.O., M.D., after his name. So far as our records show, and they are most complete and based on official data, H. M. Goehring is an osteopath, but not a doctor of medicine.

A. E. Erling, M.D., Milwaukee, Wis.—A. E. Erling, according to the stationery, is "Chairman" of "Censors." Our records fail to show that Erling ever graduated in medicine. The Health Department of Milwaukee, however, says that Erling, when interviewed, claimed to have "a diploma from the German Medical College of Chicago, but refused to show or present the same." The American Medical Directory has this item:

> *German Medical College*, Chicago. Chartered Dec. 28, 1891, by Johann Malok. Fraudulent. Extinct.

A few years ago Erling was in La Crosse, Wis., and in 1908 a circular letter bearing his name and picture was sent out from which the following extracts are taken. Capitalization as in the original:

> "Dear Friend:—Permit me to call your attention to the fact that Dr. A. E. Erling, the eminent specialist, after many years of travel, practice and medical research, has given up his extensive road practice and severed his connection with the several medical institutes which have heretofore occupied considerable of his attention . . . Dr. Erling's success in the treatment of all CHRONIC DISEASES is truly remarkable. NERVOUSNESS, all BLOOD DISEASES, RHEUMATISM, DISEASES PECULIAR TO WOMEN, CATARRH, DEAFNESS, CHRONIC CONSTIPATION . . . APPENDICITIS . . . PILES, STOMACH TROUBLES, PARTIAL PARALYSIS, etc., give way as if by magic under his skillful method of treatment . . . Understand please, that Dr. Erling DOES NOT ACCEPT A CASE FOR TREATMENT unless he can PROMISE A SPEEDY AND POSITIVELY PERMANENT CURE."

The Journal also has in its files advertisements (vintage of 1915), from some Wisconsin country newspapers, which notify the afflicted that "Drs. Erling and Karass, the expert German Specialists" could be seen in their offices in the "Schlegel Hotel," the "Schlitz Hotel," etc., as the case might be. Whether one of these "German Specialists" was Dr. Arnold E. Erling, *The Journal* does not know. Official medical records fail to show, at least, that there is any other Erling in the state of Wisconsin.

W. W. Fritz, M.D., Philadelphia.—Another of the "Censors." This presumably is W. Wallace Fritz, M.D., D.D.S., N.D., D.O., D.C., who was the "Dean" of the "American College of Neuropathy," and "Professor of Neuropathy" at the same institution. According to newspaper reports published when the "dean" of the American College of Neuropathy was called into court to testify regarding the "school." Fritz admitted that when he became dean of this "college," the "college" had three students and thirty "Faculty Members"! Fritz, it should be mentioned in passing, is a member of the Philadelphia County Medical Society and by virtue of this membership he is a Fellow of the American Medical Association! Recently Fritz's name appeared in connection with the formation of a new organization, founded, it appears, for the laudable purpose of fighting the "Medical Trust." Fritz, according to the newspaper reports, is treasurer of this new organization, which has adopted the inspiring title, "Constitutional Liberty League of America" and seems to be a later edition of the mushroom "National League for Medical Freedom." Quoting from the newspaper report:

> "Dr. W. Wallace Fritz, a member of the American Medical Association, created a profound impression when he said that all health laws were written by agents of, or members of, the American Medical Association, and that this organization was at once the most powerful and the most baneful of all the American Trusts. Dr. Fritz then went on to say: 'Most of the drugs administered are worthless. Most of the doctors who prescribe them are incompetent, but both the injurious drug and the ignorant prescriber are protected, in and out of court, by the American Medical Association, which trust is now raising a vast fund with which to drive all drugless healers out of the profession. Medicine is the camouflage used to conceal the most alert, the most rapacious and the least patriotic of all the trusts milking the American people. The tyranny of the Medical Trust is unbelievable. It is also un-American.'"

The Philadelphia *Sunday Transcript* of May 4, 1919, had a five column article under the name of W. Wallace Fritz. It is a most vituperative affair, and reeks with fire and brimstone. It is directed chiefly against the American Medical Association, and physicians are dubbed "Prescription Writing Drug Peddlers Who Prosper Through Monopolistic Laws Rather Than by the Practice of an Exact Science." In the course of this diatribe we read:

> "The members of the American Medical Association are manifesting an unwarranted interest in the dear people, who, in their assumption, need quinin and mercurial guardian; who under this class legislation confines us to this monopoly of the big and little pill, is trying by hook and crook to shut

> out the natural and rational methods of cure which are driving the drug monopoly from the face of the earth. Diagnosis and consultation consist in four or five medical doctors, whose faces denote death, sitting around a sick man and guessing what ails him. After that has been performed they guess at what will cure him, and that is generally a sure sign the undertaker will follow."

C. O. Linder, M.D., Spokane, Wash.—This gentleman (another "Censor"), seems to be an osteopath, who some years ago was "Assistant Secretary" of the "Washington's Physicians' Association," founded apparently by rebels within the osteopathic ranks who denounced the Washington Osteopathic Association as a "professional trust!" Linder apparently claims graduation in 1905 from the "Thompsonian Medical College" of Allentown, Pa. The following item from the American Medical Directory regarding this school is of interest:

> "*Thompsonian Medical College*, Allentown. Organized in 1904. Fraudulent. No evidence to show classes were ever held."

A. H. Flower, M.D., Boston.—Still another "Censor." Flower, according to the notice that appears in Polk's Directory for 1917, claims graduation in 1888 from the "American Health College" of Cincinnati, and in 1894 from the "American Health University" of Chicago. Quoting again from the American Medical Directory, here is what we find regarding the former "college":

> "*American Health College*, Cincinnati. Organized in 1874 and re-organized in 1876. Conducted by a Dr. Campbell who orginated and copyrighted the so-called 'Vitapathic System.' Fraudulent. Extinct about 1888."

We have no record of an "American Health University" of Chicago, althought there was an "Illinois Health University" of Chicago, one of the numerous diploma-mill swindles operated by Armstrong. It was declared fraudulent by the federal authorities and its charter was revoked in 1897.

Z. L. Baldwin, M.D., Kalamazoo, Mich.—Possibly the data just given concerning some of those whose names appeared on the organization's stationery are more than sufficient for the average physician to get a perspective of the Allied Medical Associations of America. Still, it is worth mentioning that in a letter recently sent out by Ignatz Mayer, extending an invitation to the annual convention of the Allied Medical Associations of America, Mayer took the opportunity of incorporating in his letter a letter which one of the members of the "association" had been sending out, urging individuals to join. The member in question was Dr. Z. L. Baldwin of Kalamazoo, Mich. Dr. Baldwin, as some of our readers may remember, is the gentleman who, a few years ago, was exploiting an "Intravenous Treatment" for the cure of tuberculosis. According to the claims made at that time:

> ". . . for the first time in the history of medicine, we have a successful treatment for tuberculosis.
>
> ". . . we are able to kill the germs of the disease in the body, thoroughly ridding it of all tubercular infection, destroying the germ and its poisons likewise."

This was a few years ago. Whether Dr. Baldwin is still specializing in consumption we do not know; apparently not, as we notice that at the first meeting of the Allied Medical Associations, Baldwin's name was on the program for the "Cure of Goiter by Adjustment of Lenses."

George Starr White, M.D., F.S.Sc., Lond., Los Angeles, Calif.—A letter received by a physician a few days before the recent convention of the Allied Medical Associations, held out as an inducement to be present the fact that "Geo. S. White will show you how to diagnose disease by means of dif. colored lights and the reaction of the body to the magnetic meridian." Dr. George Starr White was the "Second Vice-President" of the Allied Medical Associations in 1918. White, according to our records, was graduated in 1908 when he was forty-two years old, by the New York Homeopathic Medical College and Hospital. He was licensed in New York in 1908, in California, Connecticut and Nevada in 1913, and in Michigan in 1916. He seems to have been one of the proponents of "spondylotherapy," "zonetherapy," etc., and in 1915 it was announced that he would give one week courses in "Spondylotherapy" in Chicago, Kansas City and Denver, respectively. In his advertisement he emphasized that he was a Fellow of the American Medical Association, which, while true at the time, is no longer true, as on Feb. 4, 1916, he was expelled from membership in the Los Angeles County Medical Association. In May, 1915, White was arrested in Chicago and fined $100 and costs for practicing medicine without a license. Dr. White's specialty seems to be what is ponderously known as "Bio-Dynamo-Chromatic Diagnosis." This has been described by one of its enthusiastic adherents as "Diagnosis by Sympathetic Vagal-Reflex." To obtain the "Sympathetic Vagal-Reflex" is seems the patient must face east or west and have his bare abdomen percussed until a dull area is located. The patient is then faced north or south and again percussed. Then, it seems, different colored lights are thrown on the patient, the location of the areas of dulness being determined meanwhile. A combination of ruby and blue light "will cause a reflex in cases of gonorrhea," a "green light will cause a reflex in cases of liver or gallbladder trouble," while the color for carcinoma is orange red! During the height of the influenza epidemic last winter, White seems to have put on the market "Valens Essential Oil Tablets" which were for "Gripping the Flu out of Influenza," and were also said greatly to benefit or cure incipient tuberculosis, hay fever, asthma, and "catar." The letters "F.S.Sc., Lond." after Dr. White's name look well, sound well, and have an air of erudition and mystery that is well worth what they cost. They mean "Felow of the Incorporated Society of Science, Letters and Arts of London, Ltd." The "Fellowship" costs one guinea. Not a few "patent medicine" exploiters in the United States carry these mystic letters after their names. The society in question was a seriocomic concern that was exposed by London *Truth* some years ago and was also dealt with in *The Journal* of May 29, 1909, in connection with the "Aicsol Consumption Cure" exposé.

So much for the Allied Medical Associations of America. At their recent meeting in New York City they got much newspaper publicity because of their action on the prohibition question. According to the newspaper reports, the organization adopted a resolution declaring that "properly brewed lager beer is absolutely essential in the treatment of certain cases." They were further reported as endorsing the manufacture of light wines and of beer containing not to exceed 2¾ per cent. alcohol. As a piece of publicity work this resolution was all that its sponsors could expect. *The Journal* office was flooded with telegrams and letters from physicians, temperance workers, congressmen, church organizations, and others, asking, in effect, What *is* the Allied Medical Associations of America? This is our apology for giving the amount of space necessary to a proper understanding of this organization. Today the rocket of the Allied Medical Associations of America is blazing a more or less erratic course across the sky of publicity. The stick will be down anon! Any resolution or expression of opinion by this organization, or others of its type, when dealing with the broader problems of public health, is wholly without scientific significance, whether such resolutions are good, bad or indifferent.—*Jour. A. M. A.*, July 5, 1919.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

WALTER F. DONALDSON, M.D., SECRETARY, 8103 Jenkins Arcade Building, Pittsburgh, Pa.

REPORTS

Officers and committeemen present in this issue reports for the current year that indicate plainly the disposal of the funds of your society, also what is being done in your behalf toward improvement in medical practice laws, and in your name toward improving public health.

If you are indifferent to the manner of the expenditure of the more than $18,000 collected this year from you and 6,700 other members of the society, do not read the Treasurer's Report. Read the report of the many men of our society who labor for the love of the organized profession and give so freely of their time and talents. If, after reading all reports, you are dissatisfied with your society's administration, voice your constructive criticism through the proper channels at the proper time and place in order that we may have a better society and you a livelier interest in its well-being.

PROGRAMS

In this issue appear items of interest to each of the nearly 7,000 members of the Medical Society of the State of Pennsylvania. Whether or not you attend the 1919 meeting, you should study the scientific program given in the August issue that you may at least feel the sway of the trend of our scientific subjects as they change from year to year. You may also note papers that will interest you specifically and place you on guard against the month they will be published in the JOURNAL. Economic, ethical and preventive subjects have their place in the programs for various meetings, and the treatment of these varied subjects will be reflected in the future attitude of our component societies toward such vital questions as State Medicine and Health Insurance.

You should make every effort to attend the Harrisburg session and get at first hand all the good things prepared for you.

INCREASE THE STATE SOCIETY PER CAPITA ASSESSMENT

A. Are you satisfied with but 5 cents as your annual contribution to our Benevolence Fund? Six calls on it for assistance in any single quarterly period would bend the resources of this most worthy fund to the point of breaking.

B. Do you consider 25 cents a fair annual contribution from you toward our Medical Defense Fund? When this most vital fund contains $50,000 we may settle down to paltry allotments.

C. Are you satisfied with our excellent State Medical Journal? If so, you want to feel that its editor is paid for his services. If you are not pleased, you may be willing to help finance improvement. In either event, your present annual allotment of $1 is not sufficient.

D. Have you felt the power of our influence on men and laws throughout the current year? If convinced of the value of the Pennsylvania Medical Legislative Conference, will you not agree that an adequate allotment from your annual *per capita* assessment is the proper and dignified means of supporting same.

Let all reputable licensed physicians in the state unite with us, and let us all support the increase in state society dues as suggested by our Board of Trustees.

Harrisburg is easily reached by automobile from any part of the state, and September is a nice month for automobiling.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to Aug. 20, 1919:

ADAMS: *Death*—James E. Glenn (Coll. of Phys. and Surg., Baltimore, '91) in Fairfield, August 6, aged 53, from a complication of diseases.

ALLEGHENY: *New Members*—Allen G. Gantt, 6287 Frankstown Ave.; Charles E. Harris, 1502 Baltimore Ave.; W. Clark Maxwell, Highland Bldg.; Frank H. Miller, 814 Lincoln Ave., Pittsburgh; Herbert S. Arthur, 627 Walnut St., McKeesport; William J. Bryson, Hays; John C. Greenfield, Clairton; Wilford L. Thunhurst, 1112 Swissvale Ave., Wilkinsburg; George L. Beswick, Wilmerding; A. Kipp Weaver, Tarentum. *Death*—Carl H. Stein (Univ. of Pittsburgh, '12) in Pittsburgh, August 5, aged 44. *Transfers*—Charles I. Robinson to New Castle County Society, Del.; J. M. Knowlton to Mahoning County Society, Ohio.

ARMSTRONG: *Death*—Thomas M. Allison (Jefferson Med. Coll., '72) in Kittanning, June 10, aged 72.

BERKS: *Death*—Henry I. Newcomet (Univ. of Pennsylvania, '12) in Reading, August 10, aged 32, from nephritis.

Blair: *Death* — Charles Long (Albany (N. Y.) Med. Coll., '67) of Salemville, in Altoona Hospital, July 8, aged 77.

Chester: *New Members*—William B. Ewing, West Grove; George T. Magraw, Avondale; Charles J. Roberts, Berwyn; C. Norwood Wherry, 738 Walnut St., Columbia (Lancaster County); Frank H. Wells, Chester Springs; D. Reynolds, Kennett Square; B. Harry Warren, Walter Webb, West Chester.

Clarion: *New Member*—Harrison M. Wellman, St. Petersburg.

Dauphin: *Death*—Melanchthon M. Ritchie (Jefferson Med. Coll., '74) in Harrisburg, July 20, aged 69.

Delaware: *Death*—Samuel Trimble (Univ. of Pennsylvania, '67) of Lima, August 5, aged 76, of heart disease.

Erie: *New Member*—Lemuel A. Lasher, St. Vincent's Hospital, Erie.

Fayette: *New Members*—George W. Neff, Masontown; James B. Ewing (honorary), Uniontown.

Franklin: *New Member*—Joseph Ennis, Waynesboro.

Huntingdon: *New Member* — Charles R. Reiners, Huntingdon (by transfer from Westmoreland County Society).

Lackawanna: *Death* — John J. Roberts (Univ. of Vermont Coll. of Med., Burlington, '85) in Scranton, July 31, aged 59, following an operation.

Lawrence: *New Members*—Walter L. Campbell, 615 Croton Ave., John Foster, Victor C. Wagner, New Castle; Colin M. Dumm, Ellwood City.

Lehigh: *New Member* — Otto C. Reiche, 328 W. Broad St., Hazleton.

Perry: *Removal* — Arthur D. Van Dyke from Renova to Pa. Sta., New Rork City.

Philadelphia: *New Members*—Oscar H. Allis, 1604 Spruce St.; Charles S. Barnes, 2035 Chestnut St.; Charles Baum, 1828, Wallace St.; Weston D. Bayley, 1524 Chestnut St.; Albert F. Beck, 6331 Elmwood Ave.; Edward H. Bedrossian, 700 S. Washington Sq.; Albert E. Blackburn, 3813 Powelton Ave.; Dott Case Blechschmidt and Julius Blechschmidt, 5135 Race St.; Charles W. Bonney, 1117 Spruce St.; Lee Boyce, 2531 Columbia Ave.; Thomas B. Bradley, 2009 Chestnut St.; N. Francis Brecker, 2347 St. Albans St.; John E. Brunet, 2038 N. Broad St.; Thomas J. Byrne, 2037 Chestnut St.; William H. Chandlee, 4930 Frankford Ave.; Swithin T. Chandler, 5302 Wayne Ave.; Henry C. Deaver, 1701 Spruce St.; Jacob B. Feldman, 1337 N. Seventh St.; Hugh D. Fraser, 6618 Woodland Ave.; Richard F. Gerlach, 1416 N. Seventeenth St.; Ann Tomkins Gibson, 6323 Lancaster Ave.; Benjamin L. Gordon, 1824 S. Broad St.; Henry C. Groff, Broad and Venango Sts.; Lucy E. Gulezian, 415 S. Sixtieth St.; Wellington R. Hearing, 1115 W. Lehigh Ave.; Eugene A. Heilman, 876 Wynnewood Rd.; Maxwell Herman, 325 Pine St.; Adolph F. Hofkin, 922 N. Fifth. St.; Frederick M. Hopkins, 107 N. Fifty-Seventh St.; Harry Hudson, 1602 Erie Ave.; Robert Oliver Kevin, 1315 S. Fifteenth St.; Jay C. Knipe, 2035 Chestnut St.; Ruth Webster Lathrop, 1415 N. Seventeenth St.; William H. Lippert, 2512 N. Sixth St.; James Herbert McKee, 124 W. Rittenhouse St. (Gtn.); Edwin Hulme McIlvain, 3801 N. Seventeenth St.; Ernest G. Maier, 1323 N. Fifteenth St.; Henry K. Mohler, 319 S. Sixteenth St.; C. Cheston Morris, 1514 Spruce St.; Bernard James Murray, 48 W. Johnson St. (Gtn.); Mae L. Myers, 34 W. Pomona St. (Gtn.); Michael O'Hara, Jr., 2018 Pine St.; John G. Penza, 921 Federal St.; James B. Phillips, 1205 Cottman St.; Tamlin L. Powell, 2111 Master St.; Harvey M. Righter, 5049 Spruce St.; Charles J. Schneider, 1930 N. Seventeenth St.; J. Jacob Schoening, 1908 N. Park Ave.; Ledru P. Smock, 3330 Chestnut St.; George W. Sohn, 135 Green Lane (Mnyk.); Joseph M. Spellissy, 317 S. Fifteenth St.; Nathan P. Stauffer, 1819 Walnut St.; William B. Swartley, 5908 Greene St. (Gtn.); Edmund B. Sweeney, 1721 N. Sixteenth St.; Joseph P. Tunis, 2017 Locust St.; Maude Wainwright, 5203 Walnut St.; Albert D. Whiting, 1523 Spruce St.; James Williamson, 2101 Tioga St.; William Charles Wood, 1907 Chestnut St., Philadelphia; Caroline S. R. Engelhardt, Lansdale (Montgomery Co.); Mary M. A. Langdon, Oak Lane; James B. Rucker, Jr., Lansdowne (Delaware Co.); John Raftery, Grant Ave., Torresdale; Charles A. Service, City Ave., Bala (Montgomery Co.); Fannie C. Haines, State Hospital, Taunton, Mass.; Charles C. Wolferth, Youngstown Hospital Association, Youngstown, Ohio. *Death* — Franklin S. Bower (Coll. of Phys. and Surg., Baltimore, '81) in Philadelphia, August 2, aged 59, from Bright's disease.

Schuylkill: *New Members*—D. Samuel Marshall, Elmer H. Maurer, Ashland; John J. Sweeney, Heckscherville.

Tioga: *New Members*—John H. Kiley, Morris Run; Hughes G. Meaker, Tioga; Hiram Z. Frisbie, Elkland; Sullivan A. Gaskill, Covington.

Venango: *New Members*—Samuel G. Foster, Calvin M. Wilson, Franklin.

PAYMENT OF PER CAPITA ASSESSMENT

The following payment of *per capita* assessment has been received since July 21, 1919. Figures in first column indicate county society numbers; figures in second column indicate state society numbers:

7/24	Lehigh	87	6542	$2.75
7/25	Allegheny,	1068, 1070–1073, 1076–1077, 1079	6543–6550	22.00
7/30	Schuylkill	104–105	6551–6552	5.50
7/31	Venango	58	6553	2.75
8/1	Fayette	122–123	6554–6555	5.50
8/2	Clarion	38	6556	2.75
8/5	Lawerence	51	6557	2.75
8/5	Schuylkill	106	6558	2.75
8/5	Tioga	27–28	6559–6560	5.50
8/5	Tioga	29	6561	2.75
8/7	Venango	59	6562	2.75
8/9	Franklin	58	6563	2.75
8/9	Erie	119	6564	2.75
8/12	Lawrence	52–54	6565–6567	8.25
8/13	Tioga	30	6568	2.75
8/15	Chester	60–67	6569–6576	22.00

Did you read the program for the Harrisburg Session in the August Journal?

THE PENNSYLVANIA MEDICAL JOURNAL

Published Monthly Official Organ of the Medical Society of the State of Pennsylvania

CYRUS LEE STEVENS, A.M., M.D., Editor

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WESTMORELAND—Louis F. Wilson, M.D., Greensburg.
WYOMING—Herbert L. McKown, M.D., Tunkhannok.
YORK—Nathan C. Wallace, M.D., Dover.

Contributors, subscribers and readers will find important information on the second advertising page following the reading matter.

SEPTEMBER, 1919

THE HARRISBURG SESSION

If the Medical Society of the State of Pennsylvania were a commercial organization the articles appearing in the official organ representing that body would be filled with glowing accounts of the many features and inducements offered to the delegates and to the members to attend the annual meeting.

This medical society, however, is not a commercial organization. Those who have known its history for many years realize that its fundamental cause for existence has been the desire to promulgate scientific information and the gathering and correlation of scientific facts, which would elevate the professional standing of the members of organized medicine of this state.

It is, however, fitting as we approach the annual session to call the attention of the members of the component county societies to the fact that once again will an opportunity be given to meet, not only with professional friends and acquaintances, but to hear and associate with those that come from without our borders, who have kindly consented to be with us this year. We are assured by the several committees having the program in charge that the offerings this year are up to the standard in excellency and interest.

We do not, of course, consider it possible for every medical man in the state to lay aside the duties of an active practice to attend the Harrisburg meeting. We do believe, however, that no one, situated where it is possible for him or her to lay aside the duties of medical practice, either general or special, will fail to attend what we believe to be the meeting of the best medical society of any state in the Union.

Harrisburg, for the first time in its history, has adequate accommodations for all who may attend the session this year and we bespeak a large attendance of the wives and families of physicians who come either by auto or train and who are assured that Harrisburg will socially welcome and entertain to the best of her ability.

We believe that those who have remained at home during the war, unable to participate in its stirring events, feel the need of rest and relaxation as well as those who have returned from foreign countries and in the camp and wards of duty, who will find an opportunity to renew old acquaintances and make new ones at the annual session of the Medical Society of the State of Pennsylvania in Harrisburg, Sept. 22 to 25, 1919. Will you be there?

F. L. V. S.

SIDE-LIGHTS ON THE HARRISBURG SESSION

The visiting ladies are invited to attend a tea at the Civic Club, Front and North Streets, on Tuesday, September 23, from 4 o'clock until 6.

On Wednesday, September 24, the visiting ladies are invited to meet at the Penn-Harris Hotel at 12:30. They will be taken in automobiles to the Colonial Club, where luncheon will be served at 1 o'clock. This will be followed by a ride through the city, terminating at the Capitol, which will be open for inspection.

All physicians are invited to attend a smoker in parlor "A" of the Penn-Harris Hotel, Tuesday evening, September 23, at the conclusion of the open meeting which will be held in the ballroom of the hotel.

At the Harrisburg Hospital, Front and Mulberry Streets, Monday, September 22, the surgeons will be operating and the physicians will be in the wards from 9 o'clock until 12 and from 2 o'clock until 5. All of the dispensaries will be at work from 1 o'clock until 2. On Friday, September 26, Dr. William L. Clark, Philadelphia, will demonstrate the possibilities of desiccation in the removal of epitheliomas, hemorrhoids and other conditions. He will work in the main operating room from 9 until 12 o'clock. Other departments will be at work on the same schedule as on the 22d.

At the Polyclinic Hospital, Front and Harris Streets, the physicians and surgeons will be at work from 10 until 12 o'clock, Monday, September 22, and Friday, September 26. The dispensaries will be in operation from 2 until 4 o'clock.

The Pennsylvania Department of Health Dispensaries, 106 North Second Street: The Tuberculosis Dispensary will demonstrate various types of tuberculosis, emphasizing the diagnosis of incipient conditions, Monday, September 22, from 2 until 4 o'clock. From 8 until 10 p. m., the Genito-Urinary Dispensary will demonstrate the venereal diseases, also exemplifying the diagnosis and treatment. On Friday, September 26, both dispensaries will again be in operation, at the same hours as on the 22d.

Committeemen will be at the Penn-Harris Hotel during the time of the meetings to direct guests to garages and hotels. The usual rate for keeping a car over night is 75 cents.

THE ALLIED MEDICAL ASSOCIATIONS OF AMERICA

"The Allied Medical Associations of America" met in New York City just after the Atlantic City Session of the American Medical Association. It was the first mentioned body that secured so much free advertising by the adoption of a resolution stating that "properly brewed lager beer is absolutely essential in the treatment of certain diseases." The similarity of names and, possibly, other reasons, lead to the quite general statements in the newspapers that the American Medical Association had endorsed the manufacture and use of light wines and beer containing not more than 2.75 per cent. alcohol.

The Journal of the American Medical Association, for July 5, contained some data regarding some of the principal officers of "The Allied Medical Associations of America," some of which should be of special interest to our Philadelphia readers, and we are therefore giving space to this article in another part of this issue.

STATE NEWS ITEMS

DIED

Dr. William Otto Dougherty (Jefferson Med. Coll., '11), First Lieutenant, M. C., U. S. Army, from March, 1918, until his honorable discharge, March 6, 1919, and assistant surgeon at Camp Beauregard, La., in Arnold, June 28, aged 34.

Dr. Charles T. W. Seidel (Western Reserve Univ., Cleveland, '84) of Jackson Center, in Orangeville, June 24, aged 60, from cerebral hemorrhage.

Dr. James D. Kiefer (Hahnemann Med. Coll., Philadelphia, '90) in Mount Carmel, July 5, from arteriosclerosis, aged 59.

Dr. Jacob F. Briggs (Pennsylvania Med. Coll., Philadelphia, '61) in Shickshinny, July 6, aged 83.

Dr. William Henry Price (Univ. of Pennsylvania, '89) of Swarthmore, in Philadelphia, July 3, aged 54.

Dr. Charles Conrad Abbott (Univ. of Pennsylvania, '65) in Bristol, July 29, aged 76, from nephritis.

Dr. Frank H. Good (Univ. of Pennsylvania, '78) in Reading, July 26, aged 64.

Dr. John Wesley Monjar (Baltimore Med. Coll., '99) in Seneca, July 9, aged 53.

Dr. Thomas R. Hillard (Univ. of Illinois, Coll. of Med., '99) in Widnoon, July 2, aged 52.

Dr. John R. Dickson (Univ. of Pennsylvania, '80) in Gettysburg, August 13, aged 67.

ITEMS

Dr. N. E. Newbury, Scranton, has been appointed director of the city health department.

Dr. Julius H. Comroe has been appointed chief of the genito-urinary dispensary at York.

Dr. Chester G. Crist, Gettysburg, has been appointed county medical inspector for Adams County.

Influenza in Hazleton.—A man suffering with pneumonia following influenza was reported in Hazleton, August 19.

Dr. J. P. Dalbey, Gettysburg, has been appointed narcotic inspector of Cumberland, Franklin and Adams Counties.

Dr. Edward E. Marsh, Centralia, recently returned from service abroad, has been elected superintendent of the Pottsville Hospital.

Dr. George W. Stimson, Pittsburgh, Major, M. C., U. S. Army, who has been serving in France as otolaryngologist with Evacuation Hospital No. 31, has returned from overseas.

Smallpox in Franklin County.—Ella Gordon, 13 years old, of Antrim Township, has smallpox, contracted through contact with her sister, Mrs. John Rock, Waynesboro.

Dr. James R. Montgomery, Bloomsburg, recently returned from active service in France, was on August 15 appointed county medical officer, succeeding Dr. S. B. Arment, resigned.

The Second Summer Camp of the State Department of Health opened at Mont Alto, July 6, for an instructional course of two weeks under the charge of State Commissioner Edward Martin and Assistant Commissioner John D. McLean.

State Appropriations made by the last legislature as approved are as follows: State institutions, $13,215,073; semistate institutions, $2,005,560; hospitals, $6.227,900; sanatoriums, $2,939,595.

Mosquito Bill Vetoed. — Governor Sproul has vetoed the bill providing a method of getting rid of mosquito breeding places, saying it would make a radical innovation in the assessment laws of the state.

Passes Licensing Examinations.—It has been announced that 165 candidates successfully passed the examinations given in Philadelphia and Pittsburgh in June by the Bureau of Medical Education and Licensure.

Walter W. Griffin, Williamsport, was held for court by Alderman A. H. Stead on a charge of representing himself as a practitioner of medicine and surgery, making a diagnosis of disease and assuming the title of doctor.

Smoker. — The Alumni Association of Jefferson Medical College will give a smoker in the Lounge Room of the Penn-Harris Hotel, Wednesday evening, September 24, at 9 p. m. Admission tickets may be secured at the door.

The Medical Society of Franklin County held its annaul outing at Piney Mountain Inn, August 20. Drs. Arthur C. Morgan, M. B. Hartzell and John R. Minehart, Philadelphia, were present and addressed the society. A dinner was a feature of the conclave.

Additions for Rittersville.—The Board of Trustees of the Homeopathic Hospital for the Insane at Rittersville have awarded contracts for the construction of a home for women nurses, a nurses' dining room, sleeping quarters for employees, and a double farm house, at a cost of over $75,000.

Dr. Ray Murdock, Greensburg, Captain, M. C., U. S. Army, has returned from duty in France, where he saw more than a year's service.

Infantile Paralysis in York County.—The first case of infantile paralysis to develop in the county has been reported in Dover Township, and the home has been quarantined.

Deficient Children in Altoona Schools.—Out of a total of 6,779 pupils examined in the Altoona schools last term, 5,834 were found to be physically defective, according to the report of the medical inspectors. Only 23 per cent. of the total enrollment was normal.

The Women's Medical College of Pennsylvania is planning to offer courses in preventive medicine that will especially prepare women to carry on public health work. It will be the first women's medical college to give the degree of doctor of public health or public hygiene.

Department of Health Appointments.—Commissioner Martin, on July 29, appointed Dr. John H. Remig, Philadelphia, narcotic inspector in the bureau of drug control; Drs. Edward Bixby, Wilkes-Barre, and Miriam Wagner, Philadelphia, assistants in the genito-urinary division.

Soldier Memorial Hospital Project.—Wellsboro is discussing the building and endowment of a hospital at the county seat in memory of the sacrifices of her young men and women in the world war, in which the survivors shall have free treatment in preference to civilians.

Col. William J. Crookston, Pittsburgh, chief surgeon of the Twenty-Eighth Division in France, has been appointed associate chief medical inspector of the Pennsylvania Department of Health, succeeding Dr. Howard L. Hull, who has been appointed chief medical inspector of the Department.

Lieut.-Col. Richard H. Harte, Philadelphia, who commanded Base Hospital No. 10 recruited from the Pennsylvania Hospital, in France, has been decorated with the Order of St. Michael and St. George, by the English government, in recognition of his unceasing labor in behalf of Belgian relief.

Dr. Thompson M. Baird, Wilkes-Barre, Major, M. C., U. S. Army, has returned after fifteen months overseas, wearing the Croix de Guerre with bronze star for exceptional bravery in treating the wounded under heavy shell fire near Fismes in the Vesle Sector last July. Since returning he has decided to locate in Tunkhannock.

Philadelphia Physicians Named Commanders.—Drs. Hobart A. Hare, Robert G. LeConte, John C. DaCosta, Judson Daland, Morris B. Miller, Joseph Francis Dever, Paul A. Lewis, Harvey M. Righter, George G. Ross, J. E. Talley, and John A. McGlinn, of the U. S. Navy, have been promoted from lieutenant-commanders to commanders.

Dr. Alonzo Engelbert Taylor, of the University of Pennsylvania, Philadelphia, will, in December, give the Lane Lecture before the Stanford University Medical School, California. Dr. Taylor has been representative secretary of agriculture on the War Trade Board for the past two years and his lectures will deal with the results of his nutritional and medical survey of European food conditions.

Secretary of Council on Pharmacy and Chemistry Honored.—In connection with the ninety-eighth annual commencement exercises of the Philadelphia College of Pharmacy, the degree of Master of Pharmacy was conferred on Prof. William A. Puckner, Chicago, secretary of the Council on Pharmacy and Chemistry of the American Medical Association. The degree was conferred by the dean, Dr. Charles H. LaWall.

Bequests.—By the will of the late Clayton J. Gibble of Manheim, the Bethany Orphans' Home of Womelsdorf will receive $500. By the will of the late Miss Emily Pratt, Philadelphia, $5,000 each is bequeathed to the Pennsylvania Hospital, Church Home for Children, Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, and the Children's Hospital; $2,000 to the Hospital of the Episcopal Church.

The Ninth Conference of Industrial Physicians and Surgeons will be held in the Hall of the House of Representatives, State Capitol, Harrisburg, September 22, at 9 a. m. and 2 p. m. Health insurance, the new Pennsylvania Workmen's Compensation Act, conservation of workers and disposal of trade wastes and sewage will be the chief themes for discussion. The session will be held in cooperation with the annual session of the state medical society.

The State Bureau of Rehabilitation, an outgrowth of experience of the state government in administration of the Workmen's Compensation Law, has been created in the Department of Labor and Industry by the governor's approval of a bill passed in the closing days of legislature. This bureau will be administered by a chief to be named by the Commissioner of Labor and Industry and is to care for persons physically handicapped by reason of industrial accident.

Prohibition Hits Hospital.—William D. McAllister, superintendent of "Blockley," states that admissions were one-half as large from July 1 to 15, as for the same period last year. He said that the number of inmates of the women's almshouse department at Blockley and in the men's department, Holmesburg, is the lowest it has been for some time. There are 811 men and 631 women. Rum and social disease are stated to be responsible for 70 per cent. of the admissions to the almshouses.

The Lehigh Valley Medical Association at its thirty-ninth annual meeting, in Delaware Water Gap, July 24, elected the following officers: President, Dr. A. J. Trexler, Lehighton; vice presidents, Drs. S. P. Mengel, Wilkes-Barre; H. C. Fisler, Easton; F. A. Fetherolf, Allentown; J. N. Reese, Philipsburg; secretary, Dr. Alexander Armstrong, White Haven; assistant secretary, Dr. R. T. Batchelor, Palmerton; treasurer, Dr. D. H. Keller, Bangor. More than 200 members of the association were present.

Bequests.—By the will of the late Marion H. Creswell of Philadelphia, the sum of $5,000 is bequeathed to the Philadelphia Home for Incurables for the endowment of a free bed in the children's ward. By the will of the late Rosa Strauss, New York City, the sum of $1,000 is bequeathed to the Pennsylvania Hospital and $500 to the Jewish Maternity Association of Philadelphia. By the will of the late Sarah A. C. Lloyd of Philadephia, $25,000 each is bequeathed to the Children's and to the Women's Homeopathic Hospital. By the will of the late Annie H. Wilson of Conshohocken the sum of $5,000 is bequeathed to Charity Hospital, Norristown. By the will of the late Emma C. M. Simpson, Lower Merion, the sum of $5,000 is bequeathed to Bryn Mawr Hospital.

New Department of Public Health.—The new Philadelphia charter has so affected the department of public health and charities as to separate the health work from its charity functions. Under the terms of the new law, there is a department of public health of which the director of public health is the head, appointed by the mayor with the advice and consent of the council. He is to have the power to appoint an assistant director, and such other officers and employees as may be provided for. The department has the care, management, administration and supervision of city activities relating to public health, including hospitals, control of housing and sanitation, and collection of vital statistics. The board of health is to consist of the director of public health, as president, and two other members, who shall be appointed by the mayor with the consent of the council. Two of the members of the board must be physicians.

GENERAL NEWS ITEMS

Dr. James Dunn, school physician of Davenport, Iowa, has resigned in order to permit the former school physician, Dr. Peter H. Schroeder, who has been in military service, to resume his former duties.

Full Time Physician for City.—At a joint meeting of the city council and school board of Fort Dodge, Iowa, held June 5, it was decided to employ a physician who shall devote his entire time to the health work in the city, including that in the city schools.

Physical Reconstruction Treatment.—July 1, 25,600 officers and enlisted men of the army were undergoing treatment in twenty hospitals equipped for physical reconstruction work. These patients will be obliged to remain under treatment from two to four monnths.

Doctors and Nurses Sail for Serbia.—A party of twenty doctors and nurses sent by the Serbian Relief Committee of America, on July 26, sailed on the *President Wilson* for Patras, and thence to Saloniki. The party is under direction of Dr. Barton W. Brush, U. S. Navy, Flushing, N. Y.

The Youngstown, Ohio, Board of Education has employed Dr. Charles B. Lewis, former superintendent of physical education in the schools of Wilkes-Barre, Pa., for a similar position in the Youngstown schools. The board has also approved the employment of two special teachers for the instruction of pupils with defective eyesight.

Physician Loses Suit.—A suit directed by Dr. Ben Friedman of Memphis, against the Tennessee State Board of Medical Examiners, based on the allegation that his license was maliciously revoked, was recently dismissed by the court. Reports indicate that the board revoked his license about a year ago on charges that Friedman had violated the Harrison Narcotic Law.

Home for Infirm Physicians.—A certificate of incorporation of a Physicians' Home was approved by Justice Ford, August 1. The purpose is to create and maintain a home for aged and infirm physicians and their wives or widows, or to assist them in any other way feasible. Among the incorporators are Drs. Graeme M. Hammond, Alexander Trautman, Daniel Cook, Max Einhorn, Silas F. Hallock, Robert T. Morris and Albert G. Weed, all of New York City.

Honor Retiring Executive Secretary.—The council of the Ohio State Medical Association gave a dinner, July 6, at Columbus, in honor of Mr. George V. Sheridan, executive secretary of the association, who has become publisher of the Springfield (Ohio) *Sun*. On behalf of the association, Dr. John H. J. Upham, Columbus, presented a completely equipped automobile hamper to Mr. Sheridan. Mr. Don K. Martin has been elected as executive secretary and editor-manager, to succeed Mr. Sheridan.

The Toll of the Nurses.—A sacred constellation of 184 gold stars on the service flag of the American Red Cross Department of Nursing at Washington is the silent token of the supreme sacrifice made by that number of American nurses. The record is still incomplete and when this roll of honor is finally closed it is probable that the names of fully 200 American women who have laid their lives on the altar of freedom will have been inscribed on it.

The American Red Cross and the Minnesota Public Health Association have completed arrangements by which the former has supervision over and responsibility for public health nursing in Minnesota. The American Red Cross is to secure and place all permanent public health nurses, and help finance and supervise them. This does not include demonstration nurses or hospital or sanatorium nurses. The association is to conduct public health, educational, propagandist and legislative activities, and to cooperate with the American Red Cross in all directions regarding public health, but is not to finance county or community public health nurses.

Illegal Practitioner Arrested.—Dr. H. R. Orbid, "the Eminent Dr. Orbid of Ohio," was arrested by the Illinois Department of Registration and Education for practicing medicine at Joliet without a license, and was committed to jail until he secured a bondsman. When released he departed for parts unknown and did not appear for the trial. Dr. Orbid was fined $200 and costs, of which his bondsman paid $100 and will be required to pay the remaining $100 if he cannot locate Orbid and present him in court. It was found that Orbid has in his possession an army officer's uniform with a variety of insignia, so that he could assume any rank that he desired. There is nothing to indicate that he was ever in the service.

Make Room for the Returned Soldier.—The State Medical Association of Texas, at its meeting in May, passed the following resolutions:

> Whereas, Many physicians who entered the army during the recent war gave up positions with industrial concerns from which a part of their incomes were derived, and
>
> Whereas, In some instances physicians who have succeeded them during their absence are still holding their positions and have shown no inclination to resign and make way for the returned soldier; therefore, be it
>
> *Resolved,* By the Board of Councilors that it is the sense of the board that such conduct does not exhibit proper consideration for the soldier who, for patriotic reasons, abandoned every financial interest necessary to enter the service to protect the life and property of all who remained at home; and be it further
>
> *Resolved,* That all county societies take cognizance of such ungrateful and inconsiderate conduct and use their full influence in bringing pressure to bear on both the physicians in question and the employing industrial concerns, to induce them to restore the returned soldier to his former position.

The American Public Health Association will hold its next annual meeting in New Orleans, La., October 27 to 30, inclusive. The central themes for discussion will be southern health problems, including malaria, typhoid fever, hookworm and soil pollution. The program of the meetings will be published in the *American Journal of Public Health,* appearing October 5, or may at that time be had on application to the secretary, 169 Massachusetts Avenue, Boston, Mass.

The Virginia Medical Monthly, formerly the *Virginia Medical Semi-Monthly,* has become one of the state medical society journals with Dr. A. G. Brown, Jr., as editor. This makes twenty-eight medical journals controlled by state medical societies, representing thirty-eight states, and all of them with the exception of the *Illinois Medical Journal,* adhere strictly to the rules of the Council on Pharmacy and Chemistry in the advertising policies.

BULLETIN EXCERPTS

MEDICAL MONTHLY, BUCKS

Unequal Restraint in Venereal Infection

In the effort to control the spreading of venereal diseases, it does seem unfair to segregate and often imprision the women taken from brothels and let the men who are equally as guilty, run at large, or impose a small fine and discharge them for like offense. The men are as vile as the women. Why should the women when arrested, be listed, card-indexed, and often imprisoned, etc., and the men be allowed to pay a fine and set free? (Not listed nor card-indexed.) In practice the men really are the greater offenders as infection carriers, they are free to roam from place to place; likewise, their habits are more lax and they are more indifferent as to their personal hygiene. Women are more careful in their private habits and by nature more cleanly and cautious in the spread of disease. Since venereal diseases are no respector of sex, it is unfair for women to be punished and publicity forced on them and the men allowed to go about unhindered and keep on spreading the infection; this is another fool instance of the laity regulating for the doctors the prevention of the spreading of infection. Publicity is what the men fear and easily escape by the present system in vogue in larger towns. The public severely censure the women and with the next breath condone the men. This is unjust. When arrested at the brothel, the men should also be listed, card-indexed, like the women, and compelled to submit to an examination by the police surgeon. The profession knows these facts and should make a greater effort to have this inequality corrected. What is fair to the infected women should be equally fair to the infected men, both are human and both dangerous as carriers of disease. A.

BOOKS RECEIVED

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Rules for Recovery from Pulmonary Tuberculosis. A Layman's Handbook of Treatment. By Lawrason Brown, M.D. Third edition, thoroughly revised. Philadelphia and New York: Lea and Febiger, 1919. Price, $1.50.

A Textbook of Urology in Men, Women and Children. Including Urinary and Sexual Infections, Urethroscopy and Cystoscopy. By Victor Cox Pedersen, A.M., M.D., F.A.C.S., Major, M. C., U. S. Army; Consulting Physician to the Selective Service Headquarters in the city of New York; Member of the Council of National Defense, New York State Committee, Medical Section; Visiting Urologist to St. Mark's Hospital; Major, Medical Reserve Corps, U. S. Army; Member of the American Urological Association, American Medical Association, New York State and County Medical Societies, New York Academy of Medicine, American Electrotherapeutic Association, Association of Military Surgeons of the United States, and of the Committee on Venereal Diseases of the Advisory Council of the Department of Health of New York City. Illustrated with 362 engravings, of which 152 are original and 13 colored plates. Philadelphia and New York: Lea and Febiger, 1919, Price, $7.

Mortality Statistics of Insured Wage-Earners and Their Families. Experience of the Metropolitan Life Insurance Company Industrial Department, 1911 to 1916, in the United States and Canada. By Louis I. Dublin, Ph.D., Statistician; with the Collaboration of Edwin W. Kopf, Assistant Statistician, and George H. Van Buren, Supervisor, Statistical Bureau. New York: Metropolitan Life Insurance Company, 1919.

Industrial Nursing. For Industrial, Public Health, and Pupil Nurses, and for Employers of Labor. By Florence Swift Wright, R.N., Bureau of Child Hygiene, New Jersey State Department of Health; formerly Secretary of the Benefit Association of the Employees of John Wanamaker, New York; and formerly in charge of Industrial Nursing for both the Cheney Brothers' Silk Mills and the Clark Thread Company. New York: The Macmillan Company, 1919.

Psychiatric-Neurologic Examination Methods. With Special Reference to the Significance of Signs and Symptoms. By Dr. August Wimmer, Director of St. Hans Hospital, Roskilde, near Copenhagen, Denmark. Authorized translation by Andrew W. Hoisholt, M.D., Medical Superintendent, Napa State Hospital; Professor of Psychiatry, Medical Department, Leland Stanford Junior University, San Francisco, Calif. St. Louis: C. V. Mosby Company, 1919. Price, $2.

A Textbook of Materia Medical for Nurses. By A. L. Muirhead, M.D., Professor of Pharmacology, Creighton Medical College, Omaha, Neb. Illustrated. St. Louis: C. V. Mosby Company, 1919. Price, $1.50.

Cerebrospinal Fluid in Health and Disease. By Abraham Levinson, B.S., M.D., Associate in Pediatrics, Northwestern University Medical School, Sarah Morris Children's Hospital of the Michael Reese Hospital, Chicago; Attending Pediatrician, Mount Sinai Hospital, Chicago; Attending Physician, Children's Department, Chicago-Winfield Tuberculosis Sanitarium. With a Foreword by Ludvig Hektoen, M.D. With 56 illustrations, including 5 color plates. St. Louis: C. V. Mosby Company, 1919. Price, $3.

BOOK REVIEWS

RECONSTRUCTION THERAPY. By William R. Dunton, Jr., M.D., Assistant Physician at Sheppard and Enoch Pratt Hospital, Towson, Md.; Instructor in Psychiatry, Johns Hopkins University. 12mo of 236 pages; 30 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $1.50 net.

The author of this book has set before himself a task for which he is well qualified, for his published works have already testified to his interest in occupation for the insane. In the present work he seems to have entered another field and considers occupational therapy for all classes, wounded soldiers and the blind, as well as insane and feebleminded. Ample bibliography is inserted in the work whereby a student may easily continue his study after reading this interesting little book. The average reader, to whom most of the thought in this book is new, finds it a revelation. The ingenuity which has been exercised in devising the necessary appliances is a credit alike to the head and the heart of those who have conceived and executed them. It is easy to understand that one of the right temperament who would go into this work would find great joy and happiness in it. It might be considered on a high plane as applied to Christianity. The many illustrations in the book add greatly to its value. T. D.

AN OUTLINE OF GENITO-URINARY SURGERY. By George Gilbert Smith, M.D., F.A.C.S., Genito-Urinary Surgeon to Out-Patients, Massachusetts General Hospital. 12mo of 301 pages, with 71 illustrations. Philadelphia and London: W. B. Saunders Company, 1919. Cloth, $2.75 net.

The general practitioner of medicine and the surgeon, who has not become a urologist, will find much useful information in this small volume which will prevent errors in his treatment of patients suffering from affections of kidney, bladder, penis, testicles and their related structures.

Such suggestions are those in regard to the necessity of an acid urine if hexamethylenamin is to do good service in relieving colon bacillus infections of the urinary passages; that that drug is not wisely given for acute inflammations of the lower urinary tract; that it is contraindicated in tuberculous lesions of the urinary organs; that if gentleness in using instruments in the urethra and bladder has been neglected and traumatisms to the mucous membrane have occurred, lavage after the withdrawal of the instrument is demanded. The chapter on vulvovaginitis in little girls deserves the careful perusal of medical men and hospital authorities. This gonococcus infection has been the disgrace of children's wards in many large institutions. It is so common that its occurrence does not receive the efficient steps for eradication that its importance deserves. It seems almost impossible to impress the enormity of exposing baby girls to this infection on even intelligent medical officers. J. B. R.

A TREATISE ON ORTHOPEDIC SURGERY. By Royal Whitman, M.D., Orthopedic Surgeon to the Hospital for Ruptured and Crippled of New York. Sixth edition. 8vo of 914 pages. Philadelphia and New York: Lea and Febiger, 1919.

In this edition of his excellent work, Whitman has continued the plain and practical presentation of orthopedic surgery that obtained in the former ones. He has directed special attention to the mechanical side of deformities, and to the pathologic conditions leading to deformities, in a manner capable of understanding by the student and the practitioner in medicine, but has not in the least minimized the surgical side of each problem. Those recent advances in the various lines of surgical reconstructive work which appear to the author as most practical are described and recommended. The influence of the military experiences of the past few years is frequently manifest in the recommendations for surgical treatment and the author has gleaned the best for his presentation.

He has added a chapter on military orthopedics as concerned with the development of reconstruction of the wounded, which, while extremely condensed, is thoroughly practical in its considerations. In the chapter on the treatment of congenital club foot, Whitman recommends strongly the old Phelps' operation for the exaggerated cases. This appears to the reviewer a practically obsolete operation. The proneness to relapse following this operation is very great and subsequent correction proves one of the most difficult problems in club-foot work.

The book is well illustrated and undoubtedly presents the newer orthopedic surgery in the best possible manner and the author has recorded in it the results of long years of most extensive experience and ripe judgment. J. T. R.

THE DON QUIXOTE OF PSYCHIATRY. By Victor Robinson. 206 Broadway, New York: Historico-Medical Press, 1919. Price, $2 postpaid.

The author, following the checkered history of

Shobal Vail Clevenger, Jr., M.D., gives much interesting political, social and medical history of Cincinnati, St. Louis, New Orleans, Fort Benton, Mont; Yankton, S. D.; Washington, D. C.; Fort Sully, S. D.; Chicago, Dunning Insane Asylum, Philadelphia and New York. Dr. Clevenger, the son of the gifted American sculptor, was born in Italy, March 24, 1843, and came to America when only six months old, his father dying of tuberculosis during the first few days of the return voyage.

Dr Clevenger, when he graduated from the Chicago Medical College, in 1879, was 36 years old, having been a private and an officer in the United States Army, revenue collector, justice of peace, probate judge, government surveyor and employee of Smithsonian Institute. Dr. Clevenger is shown as an honest man, a lover of science, an original though spasmodic investigator, a voluminous though not careful writer, a successful expert witness and a widely known psychiatrist.

The author, after mentioning the valuable work of American neurologists, closes with the following paragraph: "What position does Clevenger occupy in this list? Not as high a place as some of the others, and whoever looks through the four official volumes of the *Institutional Care of the Insane in United States and Canada* will find only incidental mention of his connection with Dunning and Kankakee. But the calm and detached tones in which these stately volumes talk of institutional management, carefully avoiding any reference to political corruption, do not represent the truth of the situation. History cannot always be written without indignation. And it is because Shobal Vail Clevenger has aroused our indignation at atrocities, continued until this very day against the most helpless of human beings, that we have passed weightier names by, and have written instead this story of Chicago's shame, thus contributing to medical history a type which we shall ever cherish—the Don Quixote of Psychiatry."

The reviewer has already referred to the author's interesting side lights in American medicine. While the men connected with Rush Medical College and the Chicago Medical College naturally receive the most attention, it may be mentioned that 35 pages are devoted to Edward Charles Spitzka and his letters to Dr. Clevenger. In speaking of Philadelphia men the author devotes 14 pages to Edward D. Cope, 13 each to Joseph Leidy and William Pepper, and 7 pages to Harrison Allen. Valuable biographical and scientific items are scattered throughout the book.

HYGIENE AND PUBLIC HEALTH. By George M. Price, M.D., Author of "A Handbook on Sanitation," "Tenement House Inspecting," "Hygiene and Sanitation for Nurses." Second edition. 12mo of 280 pages. Philadelphia and New York: Lea and Febiger.

This is a splendid little volume for easy study of a big subject and should be found in every high school and academy. The author knows how to embody information into brief sentences and small space. The leading thought of a paragraph is in larger type to impress its trend. Housing and school hygiene, ventilation and heating are well defined; water and food supplies are treated in modern demands, the chapter on milk supply being particularly good. Nuisances are defined, disposal of waste described and sanitary laws determined. The chapter on prevention of infectious diseases is deserving of more than casual notice; conveying infection and prophylaxis in various ways are practically described. Destruction of germ life, the control of communicable diseases and the modern methods of prevention are treated in an appropriate manner. This small volume is especially valuable to the average citizen. The author has an easy, lucid style and has embodied into a small volume a vast amount of information, yet retained good-sized type which is comfortable to the eye. A. F. M.

PULMONARY TUBERCULOSIS. By Maurice Fishberg, M.D., Clinical Professor of Medicine, New York University and Bellevue Hospital Medical College; Attending Physician, Montifiore Home and Hospital for Chronic Diseases, New York. Second edition, revised and enlarged. Illustrated with 100 engravings and 25 plates. Philadelphia and New York: Lea and Febiger.

The author has used the same care in the second edition which characterized the first and the work as a whole should prove valuable to both the undergraduate and the practitioner. The subject of pulmonary tuberculosis is discussed in a thorough and practical manner and shows a comprehensive grasp of the subject which can be attained only by prolonged clinical study of a large number of cases. Mention is made of the tuberculosis problem in the recent war. The writer concludes that from this experience we may consider that adult infection is rare. The influence of influenza on the etiology of tuberculosis is discussed at length. New chapters on tuberculosis of the pleura and on pneumothorax have been added. The question of the use of the roentgen ray in diagnosis is covered in a practical manner, attention being drawn to the errors made in interpretation of the shadows seen in plates. The fallacy of the one-time cardinal sign of "movable dulness" in pleural effusion is mentioned. Under treatment the writer follows well established lines. As in his first edition, he closes the discussion of tuberculin with the following words: "It is clear that it is a remedy for those forms of phthisis which are spontaneously curable." Artificial pneumothorax is given appropriate space and is recommended. In the author's experience 10 per cent. of cases are suitable for this treatment. He does not believe it should be used in incipient cases. The roentgen ray plates in this chapter are especially illuminating. A. A.

WHAT WE KNOW ABOUT CANCER. A Handbook for the Medical Profession. Prepared by a Committee of the American Society for the Control of Cancer, and published jointly by the American Society for the Control of Cancer and the Council on Health and Public Instruction of the American Medical Association. Chicago: American Medical Association, 535 North Dearborn Street.

The American Society for the Control of Cancer has been in existence and working effectively for a number of years. The sole object of the society, at present at least, is the "dissemination of facts in regard to cancer to the end that its mortality may be reduced by a wider knowledge of the disease."

The effort represented by the present pamphlet has perhaps the most far-reaching possibilities for good of any single attempt to lessen cancer mortality undertaken in this country.

It is no longer necessary to argue the point that delay is the one great factor in cancer mortality. At least four-fifths of cancer deaths could be prevented by early recognition. The conditions necessary for recognition of cancer in ample time for cure are not ideal but distinctly practicable. Public education is one important pathway of improvement, but education of the medical profession itself is of equal, if not greater importance. Statistical studies have shown that in the majority of cases the doctor has had the cancer patient "under observation" over a year before efficient curative treatment is instituted, and it is needless to state that during this time the majority of cases have changed from curable to incurable. As the pamphlet itself somewhat mildly puts it, "The conditions call for a far keener appreciation of responsibility for the mortality from cancer than now generally exists in the medical profession."

It is not possible here to abstract this pamphlet which is already so condensed. The general facts concerning cancer are outlined and then each important type and site of cancer is taken up in detail and the forms, symptoms, standard treatment, and results to be expected are outlined for each type.

The chief point we would make here is that if every medical man would study and seriously apply the teaching in this pamphlet, which he can read in an hour, the question of delay in cancer would be solved in so far as it is referable to the medical profession. The ultimate possible good obtainable from the widespread dissemination of this pamphlet is so great that we would urge every possible means to get it into the hands of as many medical men of all classes as possible. It can be had from the American Medical Association, 535 North Dearborn Street, Chicago, for 10 cents. If you are a trained surgeon get it. It will interest you. If you are further afield get it and study and apply it. If you feel misgivings that some of your cases in the past might have been saved had you been more sure and acted more promptly (and who of us does not have such misgivings), get it. It will help you in future cases.

We would especially beg the assistance of boards of health, both state and municipal and of medical societies in distributing the pamphlet. It can be bought cheaper in quantities and sent out with your other mail matter with almost no extra cost or trouble. When such a simple means for such far-reaching good is in our hands it is a pity to let it lie neglected. J. M. W.

EMERGENCIES OF A GENERAL PRACTICE. By Nathan Clark Morse, A.B., M.D., F.A.C.S., Surgeon to Emergency Hospital, Eldora, Iowa; District Surgeon, Chicago Northwestern Railway, Minneapolis and St. Louis Railway; ex-President Iowa State Association of Railway Surgeons; ex-Vice President, Pan-American Congress; Fellow American Medical Association; Member of the Society of Clinical Surgeons of North America; Author of "Postoperative Treatment." With 251 illustrations. St. Louis: C. V. Mosby Company. Price, $4.50.

This is in every sense an emergency work; the title of the book truly expresses its scope—the description of the class of work where the attending physician must act quickly, cautiously and with good judgment.

Two hundred and fifty-one photographic pictures, completely indexed, make this book of special value in illustrating the critical points under consideration and better to elucidate the text. The chapter on the removal of all manner of foreign bodies, the bugbear of every practitioner, is well presented and explicitly portrays the "how." Asphyxia, from drowning, gases, suffocation and shock, are treated in a very practical manner; detailed technic for the procedure of the different conditions is given complete. Eighty pages are devoted to surgical emergencies, thirty to medical emergencies, and forty-five to miscellaneous emergencies. Fractures, dislocations and amputations are considered strictly from an emergency standpoint. This subject is greatly enriched by numerous photographic views taken at the right time. The chapter on emergency amputations is good and presents the subject strictly along the line of "safety first" for the patient. The modern methods of emergency amputations and the preserving of all the possible parts along the lines of modern surgery is well described. Complications in the lying-in chamber are adequately described; methods of prevention, modes of procedure, mechanical delivery, postpartum hemorrhages and puerperal eclampsia, are fully presented. Sixty-five pages are devoted to poisons, their variations and consequences; the descriptions of the effects are very complete. These important chapters are very replete and up to date; the treatment for this class of work is very explicit. Time-consuming and cumbersome methods are avoided, thus making this treatise an excellent guide for the general practitioner who constantly runs against every possible accident. This book is virtually in a class by itself; it gives a wealth of information to the class for which it is intended, a quick, reliable guide in emergencies. A. F. M.

THE MEDICAL CLINICS OF NORTH AMERICA. Baltimore Number. Volume 2, Number 6, May, 1919. Philadelphia and London: W. B. Saunders Company.

This number of the Clinics concludes Volume 2, and is provided with a table of contents and an index. It contains a record of clinics as follows: Funicular Myelitis, or Combined Sclerosis of the Spinal Cord, by Dr. Lewellys F. Barker; Personal Experience in the Treatment of Ulcer of the Stomach; Various Types of Achylia Gastricia as Revealed by the Rehfuss Method of Fractional Analysis, by Dr. Julius Friedenwald; Fundamentals in the Treatment of Pulmonary Tuberculosis, by Dr. Gordon Wilson; Pneumococcus Sepsis, by Dr. Paul W. Clough; The Clinical Diagnosis of Epidemic Influenza, by Dr. Arthur L. Bloomfield; Notes on the Gastric Signs and Symptoms in Diseases Other than Those of the Stomach, by Dr. Thomas R. Brown; Gastro-Intestinal Disturbances in Metabolic Diseases and Diseases of the Ductless Glands, by Dr. John H. King; The Rôle of Diet in the Treatment of Digestive Diseases, by E. H. Gaither; Esophagoscopy as an Aid in the Diagnosis and Treatment of Esophageal Disease, by Dr. Elmer B. Freeman; The Roentgenologic Signs of Joint-Lesions in Children, by Dr. Frederick H. Baetjer; Introductory Remarks to a Discussion of Diabetes; Serous Membrane Tuberculosis, Auricular Fibrillation, by Dr. Louis Hamman; A Case of Multiple Tuberculosis in Childhood, by Dr. Allen K. Krause; together with a contribution by Dr. John Ruhräh on Some Aspects of Epidemic Influenza in Children. E.

WAR SURGERY OF THE FACE. A Treatise on Plastic Restoration After Facial Injury. By John B. Roberts, A.M., M.D., F.A.C.S., Professor of Surgery in the University of Pennsylvania Graduate School of Medicine, Lecturer in the Civilian School of Plastic and Oral Surgery Established in Philadelphia by the Surgeon-General, etc. Prepared at the suggestion of the Subsection on Plastic and Oral Surgery connected with the Office of the Surgeon-General. Pages 442, illustrated with 256 figures. New York: William Wood and Company, 1919.

Those of our readers who belong to our state society will especially welcome this important and valuable contribution from a distinguished fellow member. Going to press during the past winter this work has been late enough to bring out all the important new teaching arising from the war. It has the further great advantage of being written by one who has been recognized for years as a master of plastic surgery of the face. It is the latter fact perhaps which gives the book its greatest value and makes it much more than a history of a phase of surgery which we may not see again. The greatest value of works on surgery of the war will be the extent to which they can help us now in civil surgery. The present book helps in this way to a very large degree and it contains a fund of information, suggestions, and descriptions of operative procedures which will make the book equally useful to the civil and military surgeon. This is especially true of the chapters devoted to injuries of the jaws and plastic operations for the soft parts of the face. The subject naturally lends itself to illustration and those in this book are profuse and unusually interesting and helpful. The book will be especially interesting to the general surgeon whose work takes him into this field only occasionally. J. M. W.

COUNTY SOCIETY REPORTS

FIFTH CENSORIAL DISTRICT MEETING

The thirteenth annual meeting of the Fifth Censorial District, consisting of Adams, Cumberland, Franklin, Fulton and York counties, was held at the Colonial Hotel, York, July 24, 1919. The weather was ideal and consequently the meeting was well attended. The Hon. E. S. Hugentugler, mayor of York, delivered the address of welcome. This was followed by the annual address by Dr. C. W. Eisenhower, York, president of the district. The censors from the various counties gave their annual reports of the progress of their respective societies during the past year.

President Frederick L. Van Sickle of the state society spoke at length on some of the most important legislative bills presented at our last legislature, fully explaining the Workmen's Compensation Bill. Such legislation, when properly guided, meets the approval of the profession. If our profession keeps watch on the bills as they appear on the calendar, and if each county society, as well as each individual member, gets in touch with the legislators and expresses the approval or disapproval of each bill which pertains to our welfare, much may be accomplished. By this time the members should see the importance of keeping a physicians' committee constantly at Harrisburg during the session of our legislature. Dr. Van Sickle closed with an interesting talk against state health insurance.

The following resolutions against health insurance and lodge practice were presented by a number of members from York County, and the sentiment of the resolutions was unanimously approved:

Whereas, The welfare of a nation depends first and foremost on the health and physical condition of its people which constitute its chief asset, and

Whereas, This depends on the knowledge, progress and efficiency of the medical profession and on preventive medicine, and

Whereas, Marvelous advancement has been made in this country by the unhampered medical profession during the past, and

Whereas, The future progress to be made in the improvement of the health and physical condition of the people of this country will correspond to the advancement of medical knowledge and to the increased efficiency of the profession and of preventive medicine, and

Whereas, All forms of social health insurance, lodge and contract practice is un-American, for it robs the physician of his individuality, it socializes and commercializes him and makes him a mere tool in the hands of a corporation, organization or bureau; it compels him to sign a contract that for a limited, definite fee he must do an indefinite amount of service, which is unprofessional and unbusinesslike; it denies him all privilege in the selection of his clientele and compels him to respond to the beck and call of all those included in the contract, whether necessary or not, at any hour of the day or night, and

Whereas, Lodge and contract practice are very frequently inefficient and unsatisfactory, because the remuneration is not commensurate with the responsibility and skilled service demanded, nor with the high standard of admission to medical schools, the time and intensity of the work of the course in medicine and the monetary investment necessary before beginning to practice, and

Whereas, According to statistics, social health insurance has failed in its chief purpose, namely, to lessen the incidence of disease and the time lost thereby, in countries in which it was tried when the incidence of disease is compared with that of other countries in which it was not tried, the United States being one, and

Whereas, According to statistics, social health insurance pauperized and demoralized the medical profession in the countries in which it was tried, therefore be it

Resolved, That we deprecate all forms of social health insurance, lodge and contract practice, except in localities in which medical service cannot otherwise be obtained, and that we believe them to be inimical to and not conceived in the interest of the medical profession, and that we believe them to militate against medical progress and efficiency which is the guardian of the health and physical welfare of the people of our country, and be it

Resolved, That while the knowledge of medicine, hygiene and sanitation of the laity or a community is primarily the knowledge of the medical profession, we believe that individuals would manifest greater loyalty and patriotism as citizens by seeking to cooperate with the medical profession in its effort to advance in medical knowledge than by attempting to exploit it, and be it

Resolved, That by virtue of the special training of the medical profession, it is especially qualified to investigate disease and advance in medical knowledge and by virtue of the same special training we believe it is better able to make practical application of such knowledge to improve the health of a people and lessen the incidence of disease than are political economists and ostensible philanthropists who lack such knowledge and training, for the latter were not consulted when the health and efficiency of the army had to be safeguarded so that our country would not fall a prey to the Hun.

Resolved, That all physicians should refrain from subscribing to all forms of lodge and contract practice and to imported or local schemes and propaganda that are detrimental to the profession of medicine and as a consequence detrimental to the welfare of the people and not conceived in the interest of the profession and are un-American in principle, but that all physicians be ready to offer their services to those who may desire them and at all times be governed in the discharge of their professional duties by the Principles of Medical Ethics of the American Medical Association which will insure honorable and efficient service to the rich and poor, and which we believe will best safeguard the future health and physical condition of our people, and be it further

Resolved, That any member of the York County Medical Society who engages in any form of social health insurance work for any local concern causes disaffection in the local profession; he violates Article III, Section 4, of the Constitution of the York County Medical Society, which reads: "Practice in which he agrees to treat families or individuals for a stated period of time for a given sum, shall be disqualified from becoming or remaining a member of this society," and he thus automatically forfeits his membership in the county and state societies and the American Medical Association and loses all the benefits and the protection that membership gives him, and at the same time he shows by such act that he is willing to disregard the welfare of his colleagues from whom he is sure to get patients who come to him, not from professional choice, but because he offers his services free of cost to them when some of these patients are better able to pay a legitimate fee than ever before in the history of our country.

The visiting ladies were well taken care of by a local committee and an exceptionally entertaining program, consisting of vocal and instrumental music, reading and dancing by select talent, was provided for at the Woman's Club. After the entertainment, the ladies met their husbands and friends at the Colonial Hotel where dinner was served to 120 guests. Dr. J. H. Comroe was toastmaster; Dr. B. F. Parker, director of music. Among those who responded to toasts were: Mayor E. S. Hugentugler, President Van Sickle, Major F. L. Gantz from the State Department of Health; Major J. H. Gilbert, president of the York County Society; Dr. J. E. DeHoff, editor of the York County Society *Bulletin;* Drs. G. E. Holtzapple, A. A. Long, C. W. Eisenhower and F. J. Small.

The next meeting will be held in Franklin County. The following officers were elected: President, Dr. T. H. Weagley, Franklin County; vice presidents, Drs. J. C. Felty, Adams County; S. E. Mowery, Cumberland County, and J. C. Atkins, York County; secretary, Dr. J. P. Dalbey, Adams County.

LEBANON—AUGUST

The Lebanon County Society met, August 1, at Fountain Park, just outside Schaefferstown. The society endorsed the action of its Committee on Public Policy and Legislation in having expressed the thanks of the society to the county legislators in the recent session of the Pennsylvania legislature for having supported certain legislation and for having opposed certain vicious medical bills.

A communication was read from Dr. S. Leon Gans, chief of the Genito-Urinary Division of the State Health Department, enclosing a copy of the Act approved July 21, 1919, to prohibit advertisements relative to the treatment of diseases of the generative organs, and asked the society's cooperation in a campaign against this class of quacks in the state of Pennsylvania.

Dr. W. H. Brubaker, a member of the society, who had recently spent some weeks in Boston in medical study, spoke to the society on "Immunity to Tuberculosis." He said that in most cases of tuberculosis in infancy infection is by three modes: (1) Inhalation, infection lodges in the bronchial or mediastinal lymphatic glands; (2) by ingestion, lodging in the mesenteric lymph glands; (3) through the tonsils, which mode is, however, doubted by many. Following the primary infection there is often a latent stage, a so-called "stage of immunity." During early childhood the immunity may be broken down by some of the acute infectious disorders. The acquired immunity may again be broken down about the age of 18 to 35 years, due to venereal diseases, alcoholism, diabetes or other wasting diseases, but rarely by influenza or pneumonia. Primary or infantile tuberculosis may be active as tuberculous lymph glands, or tuberculosis of the peritoneum, but most frequently remains latent in deep-seated lymph nodes. During this period the vonPirquet test is very valuable in recognizing the condition. Later in life this test gives less information because the positive reaction may be due to a healed condition earlier in life. Prognosis in primary or infantile tuberculosis is favorable, but if there is a secondary outbreak during childhood the prognosis is grave.

After the close of the meeting, 4:30 p. m., the members proceeded to Fetter's Hotel, in the town, where they were joined by the ladies to partake of a dinner. The society had a good meeting, heard a good address and held an enjoyable social hour around the table.

Fountain Park is one of the historical assets of Schaefferstown. It is a tract of about 10 acres, sloping up a hill called "Tower Hill," on top of which stood in former days the famous tower erected by "Baron" Stiegel, and to which he made frequent visits in pompous style from his home town, Manheim, in Lancaster County. Baron Stiegel, a native of Cologne, Germany, has the distinction of having founded the town in Lancaster County mentioned above, with the further distinction of having been a large iron manufacturer and the producer of the beautiful Stiegel glassware. This glassware was never equaled before nor surpassed since. Schaefferstown was settled by Germans about 1752 under the guidance of Alexander Schaeffer, after whom the settlement was named. Prior to this a colony of Jews had settled there who carried on a trade in furs with the surrounding Indian tribes, marketing their fur acquisitions in New York. As the Germans filtered in the Jews dwindled away; their fur trade became less and less, and nothing now remains more than a memory of the Jewish colony at Schaefferstown. In the middle of the park, up the hill, is a spring from which issues a flow of clear, sparkling water. In the very earliest period of Schaefferstown's settlement this water was conveyed into the settlement by means of wooden pipes, and made to empty into large wooden troughs at two different points—water for "man and beast." These wooden troughs existed up to a recent period but are now replaced, the one by a cement trough, and the other by a running fountain spout. It is claimed that this way of supplying the town with water was the first of its kind in the United States; in other words, the first public water works in the United States. Besides these numerous historical assets pertaining to Schaefferstown is the famous arched cellar under the Franklin House, consisting of curiously curved arches for the cellar roof, to which ingress and egress could be made to be confined to a small hole in the west wall just large enough for a person to creep through. The cellar was thus made to serve as a place of refuge for the settlers during Indian raids. Heidelberg, after the ancient Heidelberg in Germany, is the name of a large and fertile district in Lebanon County, of which Schaefferstown is the center, and was one of the earliest and largest of the early settlements in the county, and by a class of people of sterling character and genuine worth. Some of the most interesting lore and tradition in the county attaches to this section, and Schaefferstown and its surrounding sections lend peculiar charm to the antiquarian and to the seeker after things pertaining to the primitive period.

S. P. Heilman, Reporter.

LYCOMING—AUGUST

The annual outing of the Lycoming County Society was held at Elderbloom Cottage, August 7. After some predinner activities, dinner was announced promptly at 1 o'clock, and when the doctors left the tables they found they had broken all their own rules concerning moderation in eating. Chicken (and such chicken), corn on the cob, cold slaw, noodles, baked filled tomatoes, mashed potatoes, coffee, iced tea, and a half of an ice-cold canteloupe filled with ice cream—all these were individually and collectively the cause of the downfall of the medical profession.

Dr. G. Franklin Bell acted as toastmaster and, in his preliminary remarks, he referred to the active part played in the war by the medical profession. Thirty per cent., he said, of all the physicians were connected in one way or another with the service. This percentage is considerably larger than that of any other class or profession. Dr. Randall B. Hayes, in behalf of the society, welcomed home all the service physicians. He referred to the enormous debt of the United States as a result of the war, and strongly emphasized our ability to pay it. Dr. John B. Nutt, the first Lycoming County physician to enter the service and whose term was the longest, told of the medical unpreparedness of the United States at the beginning of the war, and said that drastic steps to prevent a recurrence of this condition must be taken. Dr. Francis Ball made some appropriate remarks. President Metzgar spoke of our relations to those who have served and sacrificed. Dr. L. E. Wurster, who lost a leg in the war, responded to his toast with a story. Otto Turner was present and made the doctors laugh even more heartily than he did the members of the Rotary Club the day before.

The following are the names of the physicians of Lycoming County who served their country well in the Medical Corps of the Army and Navy: Drs. R. F. Trainer, Waldo W. Hull, A. C. Lamade, Lee M. Goodman, James S. Mosher, Galen D. Castlebury, John B. Nutt, J. P. Harley, L. E. Wurster, L. W. Wright, J. Gibson Logue, R. K. Rewalt, Allen W. Dawson, Barton Brown, Robert D. Spencer, Wilber E. Turner, Thomas Morris, Charles A. Prior, Raymond Bower, Milfert W. Myers, Walter E. Boyer, J. C. Fullmer, A. D. Dye, G. W. Muffly, J. F. Norris, G. Alvin Poust, G. Franklin Bell, James Rankin, M. L. Raemore, Henry S. Weigle, a total of thirty.

W. S. Brenholz, Secretary.

SOMERSET—JULY

The Somerset County Society met in a postponed session, July 22, the regular meeting having been postponed that the soldiers of the world war from the south of the county might be properly welcomed home on that day. There was a fair turnout of members. As this was to be an educational meeting, the citizens of the vicinity were also invited.

Dr. J. M. Barr, Pittsburgh, gave an instructive address on "The Prevention of Tuberculosis," which was well received, and a unanimous vote of thanks was tendered Dr. Barr. It is probable that arrangements will be made for a similar meeting in Meyersdale later on. We believe that education of the public along the line of prevention will be one of the best means of reducing the mortality from tuberculosis.

H. C. McKinley, Reporter.

WARREN—JULY

Seventeen members of the Warren County Society met at the State Hospital, Warren, July 21, as guests of Dr. H. W. Mitchell.

Dr. Adelaide Ellsworth reported on the use of digitalis and stated that she followed the recommendation of Christian of Boston, that it is more important to give the drug until physiological symptoms are produced than to use any particular form or any stated dosage. The most economical and satisfactory method is to use the powdered leaves (U. S. P.) and to give 1 grain every three or four hours. Dr. Ellsworth called attention to the fact that often too little of the drug is used and that symptoms supposedly due to overdosage may be caused by the disease itself. In discussing the paper, Dr. L. E. Chapman wondered if a cumulative action is at all common. He had never noticed it. Dr. Paul G. Weston reported that recent experiments with the electrocardiograph made by competent men showed that at least 10 c.c. of an active tincture is required to produce any appreciable effect on the heart muscle and this does not occur until five hours have elapsed. This effect persists for several days.

Dr. P. H. Weeks read a paper on the necessity of recognizing paresis early. In a study of the history of 1,000 paretics it was found that signs of the disease are present eighteen months or more before the patients are actively treated. Paresis is active syphilis of the brain and if it could be reached early enough it might be more amenable to treatment. If repeated Wassermann tests were made every six months or at least every year in every case of syphilis and over a long period of time, and every person showing a positive Wassermann reaction and some nervous symptoms was excluded from any position of trust, much of the harm done to society by paretics might be prevented. Some cases are recognized only after some serious crime or calamity has been caused by the affected individual.

Dr. Hawkey reported the findings in a case of pellagra occurring in the hospital and gave a general résumé of the etiology which is not believed to be dietetic since the experiments of Goldberger.

Dr. Schmehl, county medical inspector, read the draft of a proposed ordinance to prevent the spread of venereal diseases, and asked the opinion of the members as to the advisability of its introduction. It seemed to be the opinion of those who took part in the discussion that there should be no secrecy in the fight against this disease, that it should be reportable and that any board of health had full power under existing laws to quarantine and regulate the actions of carriers and infected individuals. It merely requires an enlightened public opinion to make such action on the part of health officials practicable. Dr. Schmehl gave an outline of some of the activities expected from the health officer by the present state commissioner of health, and he asked for the coöperation of the society in the efforts to make Warren County clean and hygienically A No. 1. A committee was appointed to aid the medical inspector.

A very appetizing luncheon was served by the hospital staff. M. V. Ball, Reporter.

WARREN—AUGUST

The Warren County Society met with Dr. Flatt at Kinzua, August 18, but owing to bad weather the meeting was poorly attended. Dr. W. M. Robertson reported three cases of gangrene of the intestine in adults not due to hernia, all ending fatally after an attempt at relief through operation. In one of the cases an end-to-end anastomosis was tried with temporary relief only. The committee appointed on regulating against venereal disease recommended as a first step that all cases of venereal disease in Warren be reported by name to the Board of Health. It was moved that the committee be continued and report again at a larger meeting.

M. V. Ball, Reporter.

WYOMING—JUNE

The Wyoming County Society met at the office of Dr. H. L. McKown, June 11, after having had supper at Hotel Graham. The meeting was called to order by President Tewksbury. The minutes of the previous meeting were read and approved. Correspondence was read and a letter from Dr. F. L. Van Sickle relative to the Medical Legislative Conference. Each member present paid $1, which was sent to the state secretary. Resolutions of the death of Dr. B. E. Bidleman were prepared by the committee appointed. A round table talk on "Influenza" was taken up during the meeting, which was highly interesting.

H. L. McKown, Secretary.

NECROLOGY

IN MEMORIAM

Bert E. Bidleman, M.D.

Dr. Bert E. Bidleman died at his home Sunday evening, May 11, 1919, at the age of nearly 63 years. He was the son of Mr. and Mrs. Deemer Bidleman. He graduated from the Michigan University and Buffalo Medical College and began his practice in Tunkhannock in 1883 and continued until his death. He served as coroner for Wyoming County for some time and was a member of the United States Medical Examining Board for a number of years. He was also local surgeon for the Lehigh Valley Railroad from 1889 until the time of his death.

Resolved, That Wyoming County Medical Society has lost through the death of Dr. Bidleman one of its greatest members. Through his self-sacrifice and hard work he was an inspiration to all the members of this society. The society extends to his wife and members of his family their deepest sympathy and join with them in mourning the loss, not only of an excellent physician but a splendid member of the profession in the county.

Resolved, That a copy of these resolutions be sent to members of the family and to the Journal.

W. W. Lazarus,
H. L. McKown.

IN MEMORIAM

Robert A. Hildebrand, M.D.

Resolutions on the death of Dr. Robert A. Hildebrand, which occurred at York, July 5, 1919.

Whereas, Our society has sustained the loss of a fellow-member through the death of Dr. Robert A. Hildebrand, and

Whereas, The community in which he lived and practiced last has lost a physician who was devoted to his patients and in whom they had implicit confidence, be it

Resolved, That we cherish the magnanimity which he manifested toward his colleagues and the devotion and self-sacrifice which he exemplified in the practice of his profession;

Resolved, That these resolutions be transcribed on the minutes of the York County Medical Society; that a copy be sent the bereaved family, and one for publication in the Journal.

G. E. Holtzapple,
A. A. Long,
I. C. Gable.

THE COUNTRY DOCTOR

Of course the country doctor of today is as different from the country doctor of a quarter century ago as the district in which he then labored is removed from the present well-developed community.

A great public leader once said: "If the time ever comes when it falls to my lot to be in a position to erect a memorial to the country doctor, I shall avail myself of the opportunity without delay."

The present generation knows little about this striking figure of the days gone by. The country doctor now flies about in his big automobile, visiting a dozen patients scattered over miles of territory, with ease and comfort. His father of a half century ago had to straddle his favorite horse and with medicine satchel strapped securely to the saddle set forth over tortuous paths to bring needed relief to a patient miles away.

Nowadays modern invention in the mechanical line enables quick service in the agricultural districts. Then, if a call for help came in the middle of the night it was not a telephone message, but a personal visit from some member of a family wherein serious sickness had broken out. The doctor was called from a comfortable bed on a winter's night. He had to go to the barn and hitch up his horse and in a biting cold and hardly awake jog along on his mission of mercy—sometimes 5 or 10 miles. Quite frequently he returned just as the sun was coming over the eastern hills, with a whole night's vigil at the bedside of some little child whose life hung in the balance.

Who does not remember the famous painting of the faithful old doctor watching the baby patient for the sign that would bring relief in mind and body? Without was a howling snow storm, with roads rapidy losing their identity. Within science battling against physical weakness. It is an old story, but it needs to be held up every once in a while in order that in the midst of our modern life we may not lose sight of the pioneers and their wonderful labors of love.

Poorly paid, overworked, but always a welcome visitor at any home in the countryside, the doctor of the long ago has passed to his reward. But the memory of his stalwart achievements has lived on, to be an inspiration to those who followed in his steps, and found the wilderness pierced and the paths broken for the generations which were to continue the work where the good, old servant of humanity was obliged to lay it down.—Dayton (Ohio) *Daily News.*

OFFICIAL TRANSACTIONS

Report of the Secretary

Per capita tax received from Aug. 27, 1918, to Aug. 27, 1919. For 1918, $880.00, equaling the 1918 assessment for 320 members, of which amount $662.75 represents the remitted 1918 *per capita* tax paid for 241 members in military service later by the following component societies: Allegheny, Clinton, Chester, Indiana, Jefferson, Monroe, Montgomery.

For 1919 the *per capita* tax received totaled $18,249, equaling the 1919 assessment for 6,636 members.

The response of the component societies to the 1918 House of Delegates' request was generous and almost unanimous. Sixty-one societies paid the 1919 *per capita* assessment for their military members and the State Society has therefore actually remitted the 1919 dues of but five members on account of absence in military service.

Death removed 109 of our members, 57 having died in October, November and December, 1918, during the height of the influenza pandemic. The gross loss, which has been 273, is distributed as follows: Philadelphia, 78; Dauphin, 22; Chester, 22; Lackawanna, 19; Columbia, 12; Clearfield, 11; Indiana, 11; Lehigh, 10; Beaver, 10; Lancaster, 9; Bedford, 8; Westmoreland, 8; Jefferson, 7; Monroe, 7; Potter, 4; Tioga, 4; Lawrence, 3; Wayne, 3; Blair, 3; Wyoming, 3; Armstrong, 3; McKean, 2; York, 2; Cumberland, 2; Fayette, 2; Erie, 1; Montgomery, 1; Somerset, 1; Delaware, 1; Juniata, 1; Clinton, 1; Susquehanna, 1; Sullivan, 1. The following societies have paid for more members than during the preceding year: Cambria, 10; Washington, 8; Luzerne, 6; Bucks, 4; Berks, 4; Venango, 4; Allegheny, 3; Northampton, 3; Elks, 3; Warren, 3; Carbon, 2; Franklin, 2; Lycoming, 1; Crawford, 1; Butler, 1; Lebanon, 1; Montour, 1; Snyder, 1; Center, 1; Adams, 1; total, 60. The following societies have remained stationary: Schuylkill, Clarion, Bradford, Perry, Mercer, Mifflin, Union, Greene, Huntingdon, and Northumberland.

Justification for these losses may be sought in causes related to the world war and the epedemic. There are, however, in most counties many reputable and legally licensed physicians not members of this society. As usual the presence of a high grade organizer from the American Medical Association staff has been productive of many new or renewed alliances. The work of Organizer Cargill has been noticeably effective, and his presence in every county should be of advantage to all concerned, namely, nonmembers, county and state medical societies and the American Medical Association.

During these twelve months the following applications have been received for assistance from the Medical Defense Fund: 124, 125, 126, 127, 128, 129, 130, 131.

Case No. 124. Application dated Dec. 27, 1918. Failure to use tetanus antitoxin in child treated for slight scalp laceration, child dying later from tetanus.

Case No. 125. Suit threatened on account of tentative diagnosis of early pregnancy, subsequently disproven by removal of uterine fibroid. Compromise offered on basis of defendant physician bearing expenses incident to operation and the expected infant's layette. Defendant physician in military service at time suit was threatened. Councilor of the district visited the plaintiff with the result that the threat was withdrawn.

Case No. 126. Application dated Feb. 18, 1919. Mother of boy ill with diphtheria alleges her health to have been permanently impaired by immunizing injection of diphtheria antitoxin.

Case No. 127. Suit was entered February, 1919. Action brought because of infection and recurrence of hernia subsequent to operation. Will probably come up for jury trial in October, 1919.

Case No. 128. Application dated July 18, 1919. Death under chloroform anesthesia. Action was begun.

Case No. 129. Threatened action on account of infiltration inflammation following intravenous injection. Threat received July 17, 1919. Summons not yet served.

Case No. 130. Application dated July 30, 1919. Fracture of tibia and fibula. Claimant fell into the hands of another surgeon during absence of defendant in service with the American Expeditionary Forces. Action was begun July 26, 1919.

Case No. 131. Application dated July 7, 1919. Roentgen-ray burn. Action was begun Feb. 4, 1918, while defendant was serving with the American Expeditionary Forces.

The following cases have been disposed of or have been up in court during the past year:

Case No. 114. Application dated Jan. 4, 1918. Rectovaginal fistula following perineorrhaphy. Proceedings to be dropped on successful operation on the plaintiff.

Case No. 115. Application dated Jan. 30, 1918. Burns from roentgen-ray treatment. Listed for November term of court.

Case No. 117. Application dated April 16, 1918. Alleged injury to ear by scissors while physician was removing bandage. Defendant acquitted by jury. "One more victory over an attempt to extort money from a physician under guise of alleged malpractice."

Case No. 118. Application dated March 22, 1918. Amputation of thigh for sarcoma, alleged without parents' consent. Pathological findings confirmed diagnosis. Boy apparently well for several months following operation. Recently died from operation for lung condition; may have been metastatic sarcoma. Action will probably not be further prosecuted.

In marked contrast with last year at this time we are a reunited membership, the war with its attendant great drain on our active membership and the subsequent engrossment of duty devolving on the remainder have happily passed and we should have before us our most constructive year.

The response to the request for support of the Legislative Conference of the Medical Profession of Pennsylvania was satisfactory, forty-five county societies being represented in the total. The concrete results attained by the conference are elsewhere recorded, but the less tangible benefits derived will be manifest in growing knowledge of the unmeasured influence of 10,000 physicians when united on Public Health Legislation. This happy combination of the forces of the three State Medical Societies, so unique, so impressive and so effective is worthy of perpetuation.

In closing, I acknowledge my great obligation to Editor Stevens for his invaluable assistance in expediting the duties of this office, and I thank the officers of the State Society, and of the component societies for courteous cooperation extended. This year in office makes clearer to me the self-sacrificing devotion of my predecessor. His detailed developments will be manifest for many years to come, and I, for one, renew my tribute to his devotion.

Report of the Editor

To the President and House of Delegates:

The cost of printing and the inability to secure good paper of a uniform quality became so great in 1916 that it was found necessary to change printers. All things considered, it was thought best to have the printing done in Chicago and the Journals shipped in bulk by freight to Athens before mailing. The difficulties and delays in freight shipment became so great that for eight months in 1918 the shipment of the JOURNALS from Chicago to Athens was made by express. This so increased the cost that for the year ending with September, 1918, there was an actual loss to the Editor and Publisher without his having received anything for his risks and services. In order to lessen expenses it was thought best to have the JOURNALS mailed from Chicago, and beginning with the November, 1918, issue the JOURNAL has been mailed from Chicago. This necessitated two publication offices, one at 535 North Dearborn Street, Chicago, Ill., and one at 114 South Main Street, Athens, Pa. The arrangement is perfectly satisfactory.

An effort has been made in so far as possible to forward the JOURNAL to all members in the service, and more than one officer has written that his JOURNAL was the first mail he received after reaching France. This attempt to forward the JOURNAL to all members in the service has considerably increased the amount of postage and clerical work. Changes in address of officers, especially those in our home camps, were so frequent that many failed to receive all their JOURNALS, not to mention those who failed to furnish their military address. At this date there are some who have been discharged from service who have failed to furnish the JOURNAL with their present address.

It was necessary for the Editor to enter a hospital in April, but the general work of the JOURNAL for the next few months had been outlined. The Secretary's Department of the JOURNAL has been so valuable, the editorials kindly furnished by President Van Sickle, Secretary Donaldson and others have been of such interest, the office force so experienced and faithful, that the JOURNAL suffered little by the absence of its Editor.

The JOURNAL has continued to use a good quality of paper notwithstanding the increased cost of the same, and the number of pages of reading matter has been larger than called for by the contract with the Trustees. Below is given an itemized account of receipts and expenditures, the printer's bill and the postage for August and September being estimates:

JOURNAL ACCOUNTS, OCT. 1, 1918, TO SEPT. 30, 1919, INCLUSIVE

RECEIPTS

From State Society for Transactions	$ 6,919.04
Advertisements	3,031.77
Subscriptions	44.26
Journals sold*	24.15
Remittances from authors for illustrations	35.65
Advertising bills due by September 30	631.41
Total	$10,686.28

EXPENSES

American Medical Association for Printing Journals (August and September issues estimated)	$ 8,469.90
Postage on Journals (August and September estimated)	492.84
Express on October, 1918, issue, made necessary by war conditions	85.70
Expressage, parcel post, postage on copy and proof, ink, pens, pencils, etc.	44.00
Stamped envelopes	41.52
Directory, reprints, stationery, wrappers, etc.	45.12
Exchange subscriptions made necessary by war conditions	11.00
Paid for society reports	53.50
Rent, including heat, light and care	100.00
Assistants	1,130.00
Total	$10,473.58
Balance for the Editor and Publisher	$ 212.70

* Sale of Journals paid for in postage stamps is not entered on the books, the stamps being used in Journal business.

Respectfully submitted,
C. L. STEVENS, Editor.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Report of the Treasurer, Dr. L. B. Lowman

1918	RECEIPTS	
Sept. 1,	to cash, balance on hand	$7,316.48
Oct. 10,	to cash received from C. L. Stevens	151.25
Nov. 11,	to cash received from C. L. Stevens	1.00
Nov. 30,	to cash received from C. B. Longenecker, for contribution from Senior Military Medical Association	49.51
Dec. 10,	to cash received from Walter F. Donaldson, Secretary	200.00
1919		
Jan. 21,	to cash received from Walter F. Donaldson, Secretary	509.50
Jan. 21,	to cash received from Walter F. Donaldson, Secretary	896.50
Feb. 1,	to cash, received from Walter F. Donaldson, Secretary	1,113.75
Feb. 26,	to cash, received from Walter F. Donaldson, Secretary	2,095.50
Mar. 14,	to cash, received from Walter F. Donaldson, Secretary	11.00
Mar. 14,	to cash, received from Walter F. Donaldson, Secretary	2,271.50
Mar. 27,	to cash, received from Walter F. Donaldson, Secretary	1,562.00
Apr. 8,	to cash received from Walter F. Donaldson, Secretary	3,740.00
Apr. 17,	to cash, received from Walter F. Donaldson, Secretary	3,104.75
Apr. 17,	to cash, received from Walter F. Donaldson, Secretary	2.75
May 9,	to cash, received from Walter F. Donaldson, Secretary	2,384.25
June 4,	to cash, received from Walter F. Donaldson, Secretary	453.75
July 1,	to cash received from Walter F. Donaldson, Secretary	154.00
July 20,	to cash received from Walter F. Donaldson, Secretary	184.25
July 20,	to cash received from Carbon County Medical Society for organization work	4.00
Aug. 11,	to cash received from Walter F. Donaldson, Secretary	55.00
Aug. 11,	to cash received from Walter F. Donaldson, Secretary	5.50
Aug. 25,	to cash received from Walter F. Donaldson, Secretary	55.00
Aug. 29,	to cash, received from Walter F. Donaldson, Secretary	178.75
Aug. 30,	to cash, received from Medical Defense Fund, in payment of Orders Nos. 3, 6, 8, 9, 13, 49, 50 and 52, drawn from the General Fund	826.23
Aug. 30,	to cash, received from Medical Benevolence Fund, in payment of Orders Nos. 61 and 95, drawn from the General Fund	395.31
	Total receipts, General Fund	$27,721.53

EXPENDITURES

Order No.	1918	
1.	Oct. 4, by cash, G. E. Holtzapple, Committee on Scientific Work	$ 31.78
2.	Oct. 4, by cash, Walter F. Donaldson, traveling expenses	11.91
3.	Oct. 4, by cash, Frank G. Hartman, for Medical Defense Fund, Case No. 112	14.98
4.	Oct. 4, by cash, Louis Weber & Son, gavel for President	28.50
5.	Oct. 4, by cash, American Medical Association, programs and reports	92.50
6.	Oct. 4, by cash, Warren G. Light, for Medical Defense Fund, Case No. 112	600.00
7.	Oct. 4, by cash, James Jobnston, councilor expenses	40.00
8.	Oct. 4, by cash, A. H. Woodward, for Medical Defense Fund, Case No. 118	25.00
9.	Oct. 4, by cash, Claude T. Reno, for Medical Defense Fund, Case No. 106	100.00
10.	Oct. 4, by cash, American Surety Co., bond of Treasurer	12.50
11.	Oct. 4, by cash, I. J. Moyer, councilor expenses.	7.26
12.	Oct. 4, by cash, John C. Ingham, retainer fee	100.00
13.	Oct. 5, by cash, G. W. Leech, for Medical Defense Fund, Case No. 119	11.25
14.	Oct. 9, by cash, Murrelle Printing Co., 3,000 letterheads	11.70
15.	Oct. 9, by cash, William Whitford, traveling expenses and reporting	189.70
16.	Oct. 23, by cash, C. L. Stevens, Transactions, October	575.67
16½.	Oct. 23, by cash, G. W. Wagoner, Building and Loan investment	300.00
17.	Oct. 31, by cash, C. B. Longenecker, balance due Secretaries' Conference	55.47
18.	Oct. 31, by cash, H. S. Rager, services at Philadelphia	75.00
19.	Oct. 31, by cash, Lulu Gay, services as stenographer at Philadelphia	46.50

20. Nov. 13, by cash, C. L. Stevens, testimonial	2,000.00
21. Nov. 19, by cash, C. L. Stevens, Transactions, November	576.67
22. Nov. 21, by cash, Agnes J. McCarthy, expenses, registration, Philadelphia	26.37
23. Nov. 21, by cash, Bessie L. Brown, expenses, registration, Philadelphia	22.37
24. Nov. 21, by cash, C. L. Stevens, expenses, Philadelphia	35.12
25. Nov. 21, by cash, E. U. Burkman, refunding assessment of W. F. Roth	2.75
26. Nov. 25, by cash, Mrs. M. C. Repp, reporting, Philadelphia	100.00
27. Dec. 3, by cash, J. H. Johnson, triplicate receipt books	112.00
28. Dec. 6, by cash, Walter F. Donaldson, salary as Secretary,	375.00
29. Dec. 6, by cash, G. W. Wagoner, salary as Treasurer	50.00
30. Nov. 6, by cash, W. H. Cameron, salary as manager exhibits	62.50
31. Nov. 13, by cash, W. F. Donaldson, stamped envelopes	49.89
32. Dec. 13, by cash, Ida F. Little, salary as stenographer	105.00
33. Dec. 13, by cash, L. C. Alexander, reporting, Philadelphia	100.00
34. Dec. 17, by cash, Margeurite Lewis, reporting	75.00
35. Dec. 17, by cash, C. L. Stevens, Transactions, December	576.67
36. Dec. 21, by cash, A. W. McCloy Co., steel filing cabinet	104.00
1919	
37. Jan. 20, by cash, C. L. Stevens, Transactions, January	576.67
38. Jan. 20, by cash, J. H. Johnston, printing	20.40
39. Jan. 20, by cash, G. W. Wagoner, Building and Loan investment	300.00
40. Feb. 3, by cash, American Medical Association, reprints	15.65
41. March 1, by cash, C. L. Stevens, Transactions, February	576.67
42. March 1, by cash, American Medical Association, reprints	5.65
43. March 8, by cash, W. F. Donaldson, salary as Secretary	375.00
44. March 8, by cash, W. F. Donaldson, expenses	59.83
45. March 8, by cash, Wm. H. Cameron, salary as manager	62.50
46. March 8, by cash, Ida L. Little, salary as stenographer	105.00
47. March 8, by cash, G. W. Wagoner, salary as Treasurer	50.00
48. March 12, by cash, American Surety Co. premium on Secretary's bond	2.50
49. March 21, by cash, Burleigh & Challener, Medical Defense Fund, case of A. H. Reathmiller.	25.00
50. March 21, by cash, Burleigh & Challener, Medical Defense Fund, case of H. W. Kunkle	25.00
51. March 24, by cash, C. L. Stevens, Tranasactions, March	576.67
52. April 14, by cash, Burleigh & Challener, for Medical Defense Fund	25.00
53. April 14, by cash, American Medical Association, reprints	5.82
54. April 14, by cash, American Medical Association, reprints	6.96
55. April 24, by cash, E. C. Alford Company, multigraphing	5.10
56. April 25, by cash, C. L. Stevens, Transactions, April	576.67
57. April 25, by cash, G. A. Knowles, Committee on Public Policy and Legislation	500.00
58. May 15, by cash, Mrs. E. A. Williams, flowers for Dr. Wagoner	25.00
59. May 19, by cash, C. L. Stevens, Transactions, May	576.67
60. May 19, by cash, J. B. Lowman, Treasurer, Build-and Loan investment	300.00
61. May 19, by cash, E. B. Heckel, for Benovolence Fund, interest	363.33
62. May 22, by cash, W. F. Donaldson, expense of supplement to Journal for June	98.88
63. May 22, by cash, E. B. Heckel, Committee on Revision of Constitution and By-Laws	43.98
64. June 6, by cash, Walter F. Donaldson, salary as Secretary	375.00
65. June 6, by cash, Ida L. Little, salary as stenographer	105.00
66. June 6, by cash, Wm. H. Cameron, salary as manager	62.50
67. June 6, by cash, J. B. Lowman, salary as Treasurer	50.00
68. June 6, by cash, W. F. Donaldson, expenses Trustees' meeting	31.00
69. June 24, by cash, C. L. Stevens, expenses Philadelphia Session	69.35
70. June 24, by cash, C. L. Stevens, Transactions, June	576.67
71. July 31, by cash, C. L. Stevens, Tranasactions, July	576.67
72. July 31, by cash, J. B. Lowman, Building and Loan investment	300.00
73. July 31, by cash, American Medical Association, reprints	8.20
74. July 31, by cash, William N. Bradley, expenses committee meeting, Harrisburg	7.00
75. Aug. 11, by cash, J. B. F. Weyant, expenses as Councilor	40.50
76. Aug. 12, by cash, Ira G. Sboemaker, expenses as Councilor	27.29
77. Aug. 1[illegible], by cash, C. L. Stevens, Transactions for August and September	1,153.34
78. Aug. 19, by cash, Main & Co., auditing Treasurer Wagoner's accounts	56.01
79. Aug. 19, W. F. Donaldson, Committee on Scientific Work	19.10
80. Aug. 19, by casb, W. F. Donaldson, printing, postage and stationery	44.09
81. Aug. 19, by cash, G. E. Holtzapple, expenses, Comitee on Scientific Work	10.04
82. Aug. 19, by cash, I. J. Moyer, expenses as Trustee and Councilor	32.51
83. Aug. 21, by cash, Donald Guthrie, expenses, Trustees' Meeting	20.00
84. Aug. 21, by cash, Donald Guthrie, expenses, Committee on Scientific Work	4.50
85. Aug. 21, by cash, F. L. VanSickle, traveling expenses as President	159,58
86. Aug. 30, by cash, Walter F. Donaldson, salary as Secretary	375.00
87. Aug. 30, by cash, Ida F. Little, salary as stenographer	105.00
88. Aug. 30, by cash, J. B. Lowman, salary as Treasurer	50.00
89. Aug. 30, by cash, Wm. H. Cameron, salary as Manager	62.50
90. Aug. 30, by cash, Fielding O. Lewis, Committee on Scientific Work	6.74
91. Aug. 30, by cash, Murrelle Printing Co., registration blanks	13.25
92. Aug. 30, by cash, Lutber C. Peter, Committee on Scientific Work	3.00
93. Aug. 30, by cash, John F. Culp, Committee on Scientific Work	33.60
94. Aug. 30, by cash, M. H. Fussell, Committee on Scientific Work	9.50
95. Aug. 30, by cash, E. B. Heckel, Interest on Medical Benevolence Fund	31.98
96, 97, 98, Aug. 30, by cash, J. B. Lowman, for special funds, for investment	2,262.80
Total expenditures	$18,688.73

SUMMARY STATEMENT OF CASH BALANCES, RECEIPTS AND DISBURSEMENTS

Sept. 1, 1918, to Sept. 1, 1919

	Total	General Fund	Medical Benevolence Fund	Medical Defense Fund	Endowment Fund
Cash balance, Sept. 1, 1918	$14,978.35	$ 7,316.48	$ 120.34	$7,351.20	$190.33
Receipts:					
Dues, 6956 members	19,129.00	19,129.00			
Membership per capita tax	2,262.80		363.80	1,899.00	
Organization work	5.00	5.00			
Contribution from Senior Military Medical Association	49.51	49.51			
Interest on investments	863.67		388.07	263.10	212.50
Interest on deposits	163.22		7.24	148.66	7.32
Maturity of Penna. Railroad Freight Equipment Certificates.	5,000.00		5,000.00		
Total receipts, Sept. 1, 1918, to Sept. 1, 1919	$27,473.20	$19,183.51	$5,759.11	$2,310.76	$219.82
Total receipts, including balances Sept. 1, 1918	$42,451.55	$26,499.99	$5,879.45	$9,661.96	$410.15
Transfers of funds		*1,221.54	†395.31	†826.23	
Total balances and receipts	$42,451.55	$27,721.53	$5,484.14	$8,835.73	$410.15
Disbursements:					
General and special funds	21.688.73	18,688.73		3,000.00	
Balances. Sept. 1, 1919	$20,762.82	$ 9.032.80	$5,484.14	$5,835.73	$410.15

* Transferred to.

† Transferred from.

CLASSIFIED STATEMENT OF RECEIPTS

Sept. 1, 1918, to Sept. 1, 1919

GENERAL FUND

Cash on hand, Sept. 1, 1918		$ 7,316.48
Received from 320 members, dues, 1918	$ 880.00	
Received from 6,636 members, dues, 1919	18,249.00	
Received from Senior Military Medical Association, contribution	49.51	
Received from organization work	5.00	
Received from Medical Defense Fund in payment of orders issued against said fund	826.23	
Received from Medical Benevolence Fund in payment of orders issued against said Fund	395.31	
	$20,405.05	
Total		$27,721.53

MEDICAL BENEVOLENCE FUND

Cash on hand Sept. 1, 1918		$ 120.34
Received from maturity of Pennsylvania Railroad General Freight Equipment Trust Certificates	$ 5,000.00	
Received from interest on investment	388.07	
Received from interest on deposit	7.24	
Received from per capital tax for 1918 on 320 members @ 10 cents	32.00	
Received from per capita tax for 1919 on 6,636 members @ 5 cents	381.80	
	$ 5,759.11	
Total		$ 5,879.45

MEDICAL DEFENSE FUND

Cash on hand Sept. 1, 1918		$ 7,351.20
Received interest on investment	$ 263.10	
Received interest on deposit	148.66	
Received from per capital tax for 1918 on 320 members @ 75 cents	240.00	
Received from per capita tax for 1919 on 6,636 members @ 25 cents	1,659.00	
	$ 2,310.76	
Total		$ 9,661.96

ENDOWMENT FUND

Cash on hand Sept. 1. 1918		$ 190.33
Received from interest on investment	$ 212.50	
Received from interest on deposit	7.32	
	$ 219.82	
Total		$ 410.15
Total receipts		$43,673.09

CLASSIFIED STATEMENT OF DISBURSEMENTS

Sept. 1, 1918, to Sept. 1, 1919

GENERAL FUND

Medical Defense Fund for investment	$ 1,899.00	
Medical Defense Fund, on account	826.23	
Medical Benevolence Fund for investment	363.80	
Medical Benevolence Fund, on account	395.31	
Endowment Fund	1,200.00	
Expense, Journal for year	7,017.92	
Expense, bond of Secretary and Treasurer	15.00	
Expense, Philadelphia Session	818.03	
Expense, Committee on Scientific Work	118.26	
Expense, Committee on Public Policy and Legislation	500.00	
Expense, Committee on Revision of Constitution and By-Laws	43.98	
Expense, Councilors and Trustees	274.91	
Expense, President and Secretary for traveling	171.49	
Salary of manager of exhibits	250.00	
Salary of Secretary	1,500.00	
Salary of Treasurer	200.00	
Salary of stenographer	420.00	
Retainer fee	100.00	
Purchase of gavel	28.50	
Testimonial for Dr. Stevens	2,000.00	
Flowers	25.00	
Auditing Treasurer's accounts	56.01	
Printing, postage, stationery, office supplies	462.54	
Refund of assessment	2.75	
Total		$18,688.73

SPECIAL FUNDS

Medical Defense Fund:		
Purchase of Liberty Bonds, 4¼%		$ 3,000.00
Total disbursements		$21,688.73

STATEMENT OF CASH BALANCES AND INVESTMENTS

Sept. 1, 1919

CASH

General Fund	$ 9,032.80	
Medical Benevolence Fund	5,484.14	
Medical Defense Fund	5,835.73	
Endowment Fund	410.15	
		$20,762.82

MEDICAL BENEVOLENCE FUND

Wilkes-Barre City Improvement Bond, No. 94, Series 1, par value, $1,000, 4.5 per cent.	$ 1,000,00	
Liberty Bonds	4,200.00	
		$ 5,200.00

MEDICAL DEFENSE FUND

Wilkes-Barre City Improvement Bonds, Nos. 96, 97 and 98, Series 1, par value $1,000, 4½ per cent.	$ 3,000.00	
Liberty Bonds	3,000.00	
		$ 6,000.00

ENDOWMENT FUND

100 shares People's Building & Loan Association, 33 installments paid, full value, $3,717.00, withdrawal value, $3,474.00	$ 3,300.00	
Liberty Bonds	5,000.00	
		$ 8,300.00
Total cash balances and investments, Sept. 1, 1919		$40,262.82

Report of the Board of Trustees

To the President and House of Delegates:

Your Board of Trustees begs to submit the following report:

Since the organization meeting of the Board of Trustees, at the annual session in Philadelphia, Sept. 26, 1918, a special meeting of the Trustees was held at the Penn-Harris Hotel, Harrisburg, April 30, 1919. Several important matters demanded the attention of the board at that time.

The first of these was the notice of the death of Dr. George W. Wagoner, venerable Treasurer of the Medical Society of the State of Pennsylvania, whose death occurred at Johnstown, April 26, 1919, after having served the Society in this capacity most efficiently for sixteen years.

At the suggestion of Dr. Van Sickle, Dr. John B. Lowman of Johnstown was elected Treasurer to fill out the unexpired term of Dr. Wagoner.

The action of the board at the organization meeting, Sept. 26, 1918, was approved, together with the vote taken by mail, confirming the action of the House of Delegates in bestowing $2,000 on the retiring Secretary, Dr. Stevens.

A committee composed of President Van Sickle, Secretary Donaldson and Moyer, trustee, was appointed to cooperate with the editorial force of the Journal, during the illness of Dr. Stevens, and to make a report at the September meeting in regard to the future policy and management of the Journal.

A progress report by the Legislative Conference Committee, through Chairman Van Sickle, relative to the position of the profession, shows the great necessity of thorough cooperation by the profession in present and future activities in all matters.

The Trustees have asked that the *per capita* assessment be increased.

The affairs of the Society embody many functional lines of activity, each in itself of such vast importance that, in order that these duties may be well executed, it often requires the entire attention of a group of men. To get a view of this one has but to look on the various officers of the society, then on the numerous committees and sections, and the special committees and commissions, each usually doing their work well and devoting many hours of thought and labor to their task without thought of reward. To cite briefly two examples, I give first that of our Secretary, retired in 1918. He devoted years that you and I might have a clear, correct and definite presentation of the transactions. For the editorial work, at least, he received scarcely more than the actual cost of production, and for the last year he sustained an actual loss. The second case is that of the chairman of the Legislative Conference Committee, 1919. Three days in the week were spent in giving exclusive attention to legislative features, gathering information, observing tendencies, and preparing measures. Much of the other three days in the week were spent in details and in correspondence.

Effort is necessary in order to achieve results. The various functional activities that go to constitute a complete society must be developed in order that the society may serve to unite, to promote, and to elevate the interests of the profession, and thereby advance the public welfare.

Valuable legislative features have been determined this year. Important matters will appear at each session of the legislature. Much information necessary for the proper solution of these problems must be obtained in the interval. To do this requires a live organization.

The revision of the Constitution and By-Laws, as published in the June number of the Journal, 1919, has been reviewed by the Trustees, in session with the Committee on Society Comity and Policy, and the committee appointed two years ago to consider revision. The Committee on Revision of Constitution and By-Laws has given this subject long and careful consideration, and most earnestly hopes that the changes and additions suggested will better provide for the future welfare of the Society. Careful review and discussion by all members is desired.

The special audit of the books, records, and accounts of Dr. G. W. Wagoner, deceased, former Treasurer of the Society, ordered by the Trustees, made by Main and Company, certified public accountants, is attached. (See Report, Special Examination Accounts of G. W. Wagoner, deceased, Treasurer, Medical Society of the State of Pennsylvania, Sept, 1, 1918, to April 26, 1919.)

Respectfully submitted for the Trustees,

I. J. Moyer, Chairman.

REPORT, SPECIAL EXAMINATION ACCOUNTS OF G. W. WAGONER, DECEASED, TREASURER, MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA, SEPT. 1, 1918, TO APRIL 26, 1919

Medical Society of the State of Pennsylvania,
Pittsburgh, Pa.

Gentlemen:—Pursuant to your instructions, we have made an audit of the books, records, and accounts of Dr. G. W. Wagoner, deceased, former Treasurer of your Society. The period covered was from Sept. 1, 1918, to April 26, 1919.

All of the secorded receipts, as shown by the Treasurer's records, were found to have been deposited in the several depositories of the Society and the total receipts as evidenced by the records in the Secretary's journal are shown as received by the Treasurer.

The various bank pass books were submitted to us for verification and were found to be in agreement with the cash accounts. The balances in all of the fund bank accounts were verified by a written certificate of the U. S. National Bank, Johnstown, Pa.

All vouchers were of record and were found to have been approved by your President, Dr. Frederick L. Van Sickle, and your Secretary, Dr. Walter F. Donaldson. All securities representing your invested funds were submitted to us for examination and were found to be in agreement with the records representing such investments and all of the income due from the same is shown to have been applied to the credit of the Society.

Appended to this report are schedules designated as under:

Schedule "A" Summary Statement, Cash Balances, Receipts and Disbursements, Sept. 1, 1918, to April 26, 1919, inclusive.

Schedule "B" Classified Statement of Disbursements, General Fund, Sept. 1, 1918, to April 26, 1919.

Schedule "C" Statement, Cash and Investment Balances in Various Funds, April 26, 1919.

During the course of our examination, every possible courtesy was extended to us by the officers of your Society with whom we came in contact.

Respectfully submitted,

Main and Company,
Certified Public Accountants.

June 14, 1919.

SCHEDULE A

Medical Society of the State of Pennsylvania, Summary Statement, Cash Balances, Receipts and Disbursements, Sept. 1, 1918, to April 26, 1919, inclusive.

	Bal. Sept. 1, 1918	Receipts	Disbursements	Bal. April 26, 1919
General Fund....	$7,316.48	$15,709.01	$10,699,15	$12,326.34
Medical Defense Fund	7,351.20	205.89	3,000.00	4,557.09
Medical Benevolence Fund ...	120.34	367.58	....	487.92
Endowment Fund.	190.33	108.99	....	299.32
Med. Legisl. Conf. Fund	....	509.00	....	509.00
Totals	$14,978.35	$16,900.47	$13,699.15	$18,179.67

SCHEDULE B

Medical Society of the State of Pennsylvania, Classified Statement of Disbursements, General Fund, Sept. 1, 1918, to April 26, 1919.

Cost of publishing Journal	$4,035.69
Testimonial	2,000.00
Expenditures for medical defense	826.23
Payments on building and loan stock (endowment)	700.00
Salaries of stenographers	831.32
Printing, postage and stationery	429.67
Committee on Public Policy and Legislation	500.00
Salary, secretary	750.00
Salary, treasurer	100.00
Salary, manager	125.00
Retainer fee	100.00
Registration expenses, Philadelphia	48.74
Committee on Scientific Work	31.78
Gavel for president	28.50
Traveling expenses of secretary	11.91
Bond for treasurer	12.50
Bond for secretary	2.50
Miscellaneous expenses	165.31
Total Disbursements, General Fund, Sept. 1, 1918, to April 26, 1919	$10,699.15

SCHEDULE C

Medical Society of the State of Pennsylvania, Statement Cash and Investment Balances in Various Funds, April 26, 1919.

Cash		
General Fund		$12,326.34
Medical Defense Fund		4,557.09
Medical Benevolence Fund		487.92
Endowment Fund		299.32
Medical Legislative Conference Fund		509.00
		$18,179.67
Investments		
Medical Defense Fund:		
3 Bonds, par $1,000 each, 4th Liberty Loan	$3,000.00	
3 Bonds, par $1,000 each, City of Wilkes-Barre Improvement Series No. 1	3,000.00	
	$6,000.00	

Medical Benevolence Fund:		
5 Bonds, par $1.000 each, Penna. R. R. General Freight Certificates.	5,000.00	
1 Bond, par $1,000, City of Wilkes-Barre Improvement Series No. 1..	1,000.00	
4 Bonds, par $1,000 each, 3d Liberty Loan	4,000.00	
2 Bonds, par $100 each, 3d Liberty Loan	200.00	
	$10,200.00	
Endowment Fund:		
100 Shares Peoples Building and Loan Assn., 28 payments made....	2,800.00	
5 Bonds, par $1,000 each, 1st Liberty Loan	5,000.00	
	$7,800.00	
		$24,000.00
Total Cash and Investments, April 26, 1919..		$42,179.67

Reports of Individual Councilors

DR. IRA G. SHOEMAKER, READING, COUNCILOR FOR THE FIRST DISTRICT

To the President and House of Delegates:

The societies comprising the First District are in splendid condition. The meetings have been well attended and an appreciable increase of members reported; however, in one county there is a loss up to this time because of failure of some members to pay the current dues. It is probable that they will meet their obligation and be restored to membership.

We have visited each society with the exception of Philadelphia. These visits were pleasant and much enjoyed. In addressing the meetings special stress was laid on organization, urging that every legally qualified practitioner in the county should be secured for membership in order that a determined and concerted effort might be made toward bettering conditions in the profession, raising the standard and preventing the passage of discriminating legislation. By these efforts it is hoped that the profession will be recognized as a potent active force deserving of consideration and a place in the affairs of everyday life, and that as a body it will not submit to be humiliated without strong protest.

So far as we are able to learn there seems to be no active opposition to the proposed new constitution, but there may be some to the increased *per capita* assessment; however, if it can be shown to be necessary and unavoidable it will be assented to. The Berks County Society has, in view of the proposed increased *per capita* assessment, raised its annual dues to $10 and thus shows itself in favor of the increase.

No applications for defense in alleged malpractice suits have been made during the year and but one remains on our hands. Case No. 117, Hartman vs. Russel, came to trial this spring and resulted in a verdict of acquittal. Case No. 114, Hartman vs. Fichthorn, was heard before three arbitrators, who decided that they "found no cause for action against Dr. Hartman." The prosecution, not being satisfied with the findings of the arbitrators, listed the case for trial this spring but failed to call it and in all probability a satisfactory settlement will be made.

Thus the year has come to a close, and notwithstanding the many disadvantages under which we have labored, especially due to the great amount of work thrust on every physician because of the large number of men in the service and the epidemic of influenza, we believe the profession has made strides forward and we hope the new year will see still greater things accomplished.

DR. HARRY W. ALBERTSON, SCRANTON, COUNCILOR FOR THE THIRD DISTRICT

To the President and House of Delegates:

During the past year I have visited, as Councilor, all but two of the county societies comprising the Third District and in all find the spirit of organized medicine and medical fellowship better than in previous years and with a brighter outlook for the future welfare of the doctor than ever before.

With many medical men away in the service of their country, who previously were regular and faithful attendants at the stated meetings, the average attendance has been somewhat below normal in certain sections, but in all the meetings attended, without a single exception, there has been apparent a wholesome "get-to-gether" spirit and an earnest effort to aid and support, both morally and financially, our representative at Harrisburg, with an apparent realization on the part of the individual practitioner that "in unity there is strength."

While our plan of representation during the legislative session at Harrisburg this year was of more or less extemporaneous character, it has proven its feasibility and should by all means be continued under the official supervision of this and other allied organizations of a like nature.

We are passing through a stage of reconstruction in all lines and as an organization we are at present confronted with changing conditions which must be met and properly disposed of, and to do this it will be necessary to modify our present Constitution and By-Laws in such a manner that they will adequately conform to present-day conditions and needs of the organization and facilitate the speedy and satisfactory conduct of business.

No new suits for alleged malpractice have been brought against members of the various county societies residing in this district during the past year. Two suits have been threatened but in each case we have succeeded in impressing those who threatened us that they would incur unpopularity with the profession generally and that as a man the medical profession of this state stand together for mutual protection against the professional blackmailer, and in both instances our efforts were rewarded by the withdrawal of the case.

During the year we have been called on to aid in the defense of one case that has been continued from time to time since the term of my predecessor; that of Guther vs. Edward J. and Sarah O. Bang. This case was called for the June term of Wayne County Court and was heard at Honesdale. After two days of hearing evidence in this case, in which at no time could I see that the prosecution sustained its contention of negligence on the part of the defendant in his treatment of a fracture of the femur which resulted in shortening to the extent of 1.5 inches, the case was given to the jury who failed to reach an agreement. It is now scheduled for rehearing at the October term of court.

As the year draws to a close and we review the work done in the Third District it is with pleasure we think of the time spent in connection with the office and the friendly relationships established in the various societies visited and the increased interest manifest in things that tend toward the betterment of the profession generally, and we hope for a continuance of this spirit until organized medicine in Pennsylvania shall be a standard for our profession throughout the country.

DR. HOWARD C. FRONTZ, HUNTINGDON, COUNCILOR FOR THE FOURTH DISTRICT

To the President and House of Delegates:

Presented herewith is my report as Councilor for the Fourth Councilor District, composed of Huntingdon, Mifflin, Juniata, Perry, Snyder, Montour, Northumberland and Columbia Counties.

During the year there has been no case of alleged malpractice brought against any of its members.

Each county society in the district is in good standing in the State Society, and has held meetings with about the usual regularity. The attendance and enthusiasm, however, were not up to normal, due probably to the strenuous life of the doctors engaged in essential war work, the influenza epidemic last fall, and the reaction incident to the close of the war. It was impossible to visit the individual county societies, but I have kept in touch with their work from time to time.

A meeting of the Sixth Censorial District was held at Mifflin, Juniata County, on the afternoon of June 26, 1919, with twenty-eight present. An interesting, scientific and instructive address was delivered by Dr. Thomas W. Jackson, of the State Department of Health, on "Influenza," which was well received and freely discussed. At this meeting the question of the *per capita* assessment to the State Society was presented. The statement was made that the increase recommended was necessary for the well-being of the medical profession of Pennsylvania, and also to meet the expenses of the State Society in order to continue to maintain its high standard of efficiency; viz., there will be increased cost for publishing the PENNSYLVANIA MEDICAL JOURNAL next year. The maintenance of the Medical Defense Fund and the Medical Benevolence Fund is necessary, and a great protection to the members. Also, a fund for a legislative committee should be maintained; the benefits of having a representative of the profession at Harrisburg this year to look after our interests during the meeting of the legislature are quite apparent. All these items take money, and it was stated that the amount recommended was small compared to the benefits received.

A resolution was unanimously adopted that it was the sense of the meeting that the recommendation of the Trustees to the House of Delegates of $5 *per capita* assessment for next year be approved.

DR. SPENCER M. FREE, DUBOIS, COUNCILOR FOR THE FIFTH DISTRICT

To the President and House of Delegates:

The condition of the societies of the Fifth District is good. The epidemic of influenza during the past year caused the omission of three or four meetings by most of the societies and a somewhat more irregular attendance than in former years. One society of the district which had become almost lifeless has been resuscitated and is now in a healthy condition. The membership of the district is 633. A few members have been suspended for nonpayment of dues, but the secretaries think that all will be reinstated. The average attendance has been a little lower than in 1918. This is due to the influenza epidemic.

Thirty members of the district are still in the United States Service.

There are three suits for malpractice. Two have been on hand for over a year and have not come to trial. One of these will probably never come to trial. The other one is expected to come up at the November, 1919, term of court. We expect to obtain a nonsuit. The third suit has been brought in the Federal Court of Pittsburgh against one of the members of the Fayette County Society. The attorneys think the case will be thrown out of court, as there seems to be no ground for suit.

DR. DONALD GUTHRIE, SAYRE, COUNCILOR FOR THE SIXTH DISTRICT

To the President and House of Delegates:

The condition of affairs in the Sixth District is uniformly good. Reports show that there have been no threatened suits for alleged malpractice during the year, and that the men who have returned home from service are taking up their work with interest and enthusiasm.

Your Councilor has been able to visit the following county societies: Lycoming, Clinton, Tioga, Wyoming and Bradford. He was unable to visit Union County because their annual meeting was held on the date that President Van Sickle visited the Bradford County Society. The annual meetings of the Susquehanna and Sullivan County Societies are to be held at the end of this month at a time too late for the proceedings to be incorporated in this report. The secretaries of these societies, however, have been written to several times. In my letters and at the meetings I have attended, I have urged the societies to support the proposed increase in the *per capita* assessment, and have explained at length the work done by the Legislative Conference Commission. I have emphasized the value of the Medical Defense and Benevolence Funds, and of the importance of having full-time representation at Harrisburg to protect our interests and to prevent the passage of legislation which might be detrimental to us. I have further talked about the Compulsory Health Insurance Act and have done my best to interest the men in the district in it, explaining carefully that if the Compulsory Health Insurance Act should be passed in our state it will be far better to have our interests represented by constructive rather than by obstructive legislation. There has been marked interest shown in these matters which will be discussed in detail during the coming year.

The men in the district everywhere performed excellent work during the recent epidemic, which was especially severe, and in spite of depletion in the ranks due to the war the hardships were faced with patience and fortitude.

DR. IRWIN J. MOYER, PITTSBURGH, COUNCILOR FOR THE SEVENTH DISTRICT

To the President and House of Delegates:

The Councilor of the Seventh District respectfully asks permission to submit the following report:

Conditions in the Seventh Councilor District are good. All the county medical societies in the district have been visited during the year. Feb. 11, 1919, Washington and Green Counties were visited. April 24, a social visit was made the Lawrence County Society. May 8, a visit was paid the Mercer County Society at Sharon, and on June 19 a very pleasant hour was spent with the Beaver County Society in Rochester. Good interest is shown by all in matters pertaining to the profession. The faithful few are always on hand, ready for duty, and they maintain a healthy home where all derive a benefit, usually in proportion to their efforts put forth.

Membership in the county society affords many advantages. Some of the county society bulletins publish regularly ten of these advantages. One of these advantages is the medical defense. In the Seventh District, recently, a physician was sued for using diphtheria antitoxin: another was sued for not having used antitetanic serum.

There are three points to which I wish to call the attention of the members of the Society: (1) Alleged malpractice is the basis of defense; (2) close attention to the Golden Rule on the part of the third party; (3) prompt attention to the rules on the part of the alleged party. Neglect of this is often a source of great annoyance to all parties.

A very kindly interest is shown in the district toward the administration of the State Society. The proposed revision of the Constitution and By-Laws as a whole is very favorably looked upon.

DR. H. W. MITCHELL, WARREN, COUNCILOR FOR THE EIGHTH DISTRICT

To the President and House of Delegates:

Most of the societies have been visited and in all instances reports of the secretaries have been secured in the various counties comprising the Eighth District.

About seventy-five members of the society left their homes and entered military service during the war. All are reported well with the exception of Dr. Joseph Dudenhoefer of Erie, who was killed while in action.

The influenza epidemic of last fall was especially severe in certain country districts where medical facilities were not of the best. In these places the few physicians were aided by the Red Cross organization and volunteer workers, and the trying situation was very successfully handled. In some of the smaller counties, meetings have been held less frequently during the year than is the custom but all the secretaries report a reviving activity following the return of more normal conditions. The meetings attended by the Councilor have been interesting and showed good attendance. Some of the societies report an increase of membership.

No medical legal suits have been brought against any members in this district for which any request has been made of the Medical Defense Fund.

So far as present opinions have been obtainable, members look on the proposed increase in assessment as necessary to the proper conduct of the State Society and the publication of the Journal.

The various societies show keen interest in the antivenereal campaign being conducted by the State Department of Health and individual expressions, so far as obtained, indicate that there will be ready cooperation on the part of physicians to secure better Department of Health control of this disease than is now possible under existing legislation. Many feel that the measures proposed for control should be state wide in character and that legislation to bring this about should be secured at the earliest possible opportunity. The passage of city and borough laws here and there do not seem to promise the complete supervision that might be effected by well-conceived state legislation in keeping with that of many other states.

Arrangements have been perfected with the Warren State Hospital to receive from military authorities all insane soldiers and sailors resident in the hospital district who may hereafter be cared for by the Bureau of War Risk Insurance.

While the general routine of the several counties has been somewhat reduced during the past year there is no indication of any waning interest in medical societies' activities, and affairs are rapidly assuming a more normal state than existed earlier in the year.

DR. JAY B. F. WYANT, KITTANNING, COUNCILOR FOR THE NINTH DISTRICT

To the President and House of Delegates:

The year just closing has been an unusual one, and few, if any, of the men in practice have ever experienced so many difficulties as we have passed through since last we met. Many of the young men in the profession were "over there" in the front lines, fighting for universal democracy. We were behind the lines doing what we could to hold up their hands. In addition to this came the influenza epidemic, when people were stricken without notice, calling on physicians not only for medical relief, but for pecuniary assistance. Medicines were scarce and hard to get; nurses with training were not sufficient; laymen were called into service. The physicians were going beyond their endurance, which of course had a great influence over county medical society meetings and, as a result, the average attendance was not high. The Councilor had the pleasure of visiting Butler, Clarion, Venango, Jefferson and Armstrong County Societies, being a member of the latter.

The Venango County Medical Society held its annual outing in Monarch Park, near Oil City, in July, which was well attended. The program was interesting, and the dinner prepared by the wives of the members was of the very best that the season brings. The Jefferson County Medical Society was visited late in 1918, when there was a good attendance and the dues for every man was paid. The Butler County Medical Society has done good work and is anxious to secure every eligible physician for membership before the end of the year. The Clarion County Medical Society is at work; good meetings have been held during the year and prospects are good to secure a full membership. The Armstrong County Medical Society has monthly meetings, which have been well attended.

The Councilor is delighted to state that the district is free from suits for alleged malpractice. Two were threatened but have, to all indications, been dropped. The proposed raise in annual dues is commensurate with the benefits from the State Society, our Society, to the members. Nowhere in all the world can we find a society that has offered so much for the small premiums paid. Just think, defense in alleged malpractice, relief to the unfortunate, support to the aged, a good Journal and social influence—all have been done for $2.75 *per capita* per year. With the happy anticipation of more reserve fund, the raise of *per capita* or annual dues becomes a necessity. This will take care of the legislative work which has done so much during the last session. Most of our members have returned from the service and taken up the life of the civilian; fortunately none were lost in the service. These men are rich in experience and full of army technic of surgery and medicine. They will be an inspiration and add much to the interest of the local societies.

Report of Committee on Public Policy and Legislation

House of Delegates, Medical Society of the State of Pennsylvania:

Gentlemen:—Your Committee on Public Policy and Legislation submits the following report of its activities during the year 1919:

By the direction of the House of Delegates in session, a Conference was held early in January, 1919, in Philadelphia, comprising the Committees from the Medical Society of the State of Pennsylvania, the Homeopathic and Eclectic Societies and organized the Medical Legislative Conference of Pennsylvania. A second meeting of the Conference was held in Harrisburg the latter part of January, 1919, for the further transaction of business. The decision was made by the Conference to supervise all legislative work and onr Committee therefore referred everything to it for action. The results are fully covered in Dr. Van Sickle's report for the Conference. Sufficeth for your Committee to express herewith its perfect satisfaction with the results attained by the representatives at Harrisburg of the Conference and the Committee on Public Policy and Legislation.

We commend to your special attention the results attained in such legislation as the Amendment to the Workmen's Compensation Act. the law against advertising by venereal quacks, and the defeat of the Osteopathic Bill.

The results attained have more than justified the efforts and sacrifice involved and we unhesitatingly endorse the suggestion that our Society in the future give fullest financial and moral support to the efforts of organized medical men and women as combined in the present Legislative Conference of the Medical Profession of the State of Pennsylvania. The constant presence and vigilance at Harrisburg of Dr. Van Sickle throughout the Legislative Session were rewarded by more legislative enactments beneficial to public health than was ever before realized. We trust that the 1919 House of Delegates will endorse the recommendation of the Board of Trustees increasing the annual *per capita* tax to $5 With such increase we recommend that these governing bodies make ample appropriation for the support of our representatives in our continued fight for improved medical practice acts, and for laws that safeguard and improve public health. We recommend to all component societies that through their committees on Public Policy and Legislation they should in every legitimate manner support the candidacy of legislative aspirants of good record or fair promise regarding public health legislation. We call attention to the extreme value as a punitive measure of the power conferred on the Board of Medical Education and Licensure to revoke the license to practice of those physicians found unworthy. We believe that all component societies should be on guard against receiving or harboring as a member any physician unreputable or unlicensed.

We commend the governor and those legislators of our commonwealth who have so wisely constructed our health laws and pledge our assistance and support in their future efforts. The Committee is of the opinion that legislation should be recommended requiring that all individuals desiring to treat the sick and injured be thoroughly and scientifically educated. Refering you again to the published work of the Legislative Conference, and urging every member of the Society to advance our profession's influence in health legislation, we conclude with the admonition that all should make a study of social insurance in all its forms as they may directly or indirectly affect the medical profession in its relation to health and sickness.

George A. Knowles, *Chairman,*
William M. L. Coplin,
Frank G. Hartman,
Frederick L. Van Sickle,
Walter F. Donaldson.

Report of the Committee on Defense of Medical Research

(Subsidiary to the Committee on Public Policy and Legislation.)

To the President and House of Delegates:

The Committee on Defense of Medical Research has made no expenditures during the past year.

Respectfully,
James D. Heard, *Chairman.*

Report of the Commission on Conservation of Vision

(Subsidiary to the Committee on Public Policy and Legislation.)

To the President and House of Delegates:

The activities of the Commission on Conservation of Vision during the past year have been limited in large measure to cooperation with the Department of Labor and Industry in elaborating measures to protect the eyes of workmen from injury and in advising the State Department of Health regarding proper measures to adopt in several instances where an intimate knowledge of eye diseases was necessitated.

The commission asks for its continuance.

Respectfully submitted.
William Campbell Posey, *Chairman.*

Report of the Committee on Society Comity and Policy

To the President and the House of Delegates:

Your Committee on Society Comity and Policy respectfully reports as follows:

We have held one meeting of the committee during the year at which three members were present, one member being absent on account of serious illness and the other by pressure of professional duties. The additional work of the committee has been done by correspondence.

Your committee recommends the adoption of the new Constitution and By-Laws as printed in the June number of the Pennsylvania Medical Journal with a few slight changes.

1. We recommend the insertion of the word "several" in line two, in Section 1, of Article III, so the clause shall read, "whose several constitutions and by-laws have been approved by this Society."

2. In Article IV, we recommend the omission of phrase, "citizens of the United States," in second line, and the adding "s" to "assessment" in fourth line, and change "has" to "have" so that the section shall read. "The membership of this Society shall consist of members in good standing in the component county medical societies, and whose annual assessments have been paid."

3. In Article IV, Section 2, change the first line to read, "Section 2.—Members whose assessments have been received by."

4. In Section 3, of Article IV, omit the word "reference" in line five, and "to" in line six, and insert the word "official" before "roster" so that the sentence shall read, "When his right to membership has been verified by the official roster of this Society he shall have a right to all the privileges of membership at that session." Also omit "complied" in ninth line and insert "registered in accordance" so that the sentence shall read, "No member shall take part in any of the proceedings of the annual session until he has registered in accordance with the provisions of this section."

5. In Section 4, Article IV, omit all after the word "proceedings" in sixth line.

6. In Section 6, Article IV, in line four, after the word "of" insert "a general meeting or a section of" so that the clause shall read, "may by vote of a general meeting or a section of this Society be accorded the privilege," etc.

7. We recommend that the last three lines in the first paragraph of Section 1, Article V, be changed to read, "component county medical society. 3. A Speaker and a Vice Speaker. 4. The President of this Society. 5. *Ex-officio* the Trustees, the Secretary and the Treasurer but without the right to vote."

8. In Article VII, Section 1, line six, omit the words, "When necessary."

9. In Article VIII, Section 1, line five, omit the word "ten" and substitute "who are also" so that the last clause shall read, "ten Trustees who are also Councilors and as many Censors as there are component county medical societies." Also in Article VIII, add Section 5, to read, "A District Censor or the Editor may hold any other office. The office of Secretary, Editor, General Manager, and Manager of Sessions and Exhibits, any or all, may be held by one individual.

10. Change Article X, Section 1, so as to read, "A general meeting of this Society may by a three-fourths vote of the members present, order a general referendum on any question pending before or on any action taken by the House of Delegates, and when so ordered the House of Delegates shall submit such question to the members of this Society, who may vote in person or by mail within fourteen days. The vote shall be received by the chairman of the Board of Trustees and be counted by the President and Secretary of this Society and the result be reported to the House of Delegates. The vote to be valid must be participated in by a majority of the members of this Society, and a majority of such a vote shall be necessary to determine any question, when it shall be binding upon the House of Delegates."

11. In Chapter II of By-Laws, Section 7, line one, omit "post." Change Section 8 to read: "The House of Delegates is the legislative and business body of this organization. Its actions are authenticated by virtue of being the transactions of the delegated power of the members of the Society." Add: "Section 9. In addition to its other functions, it shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body."

12. We recommend that in Chapter III, Section 1, the Censorial Districts be rearranged as follows:

First: Philadelphia.
Second: Chester, Delaware, Montgomery.
Third: Berks, Carbon, Northumberland, Schuylkill.
Fourth: Bucks, Lehigh, Northampton.
Fifth: Lackawanna, Monroe, Pike, Wayne.
Sixth: Dauphin, Lancaster, Lebanon.
Seventh: Adams, Cumberland, Franklin, Fulton, York.
Eighth: Columbia, Luzerne, Montour.
Ninth: Bradford, Sullivan, Susquehanna, Wyoming.
Tenth: Huntingdon, Juniata, Mifflin, Perry, Snyder.
Eleventh: Blair, Cambria, Center, Clearfield.
Twelfth: Clinton, Lycoming, Potter, Tioga, Union.
Thirteenth: Cameron, Elk, McKean, Warren.
Fourteenth: Crawford, Erie, Mercer.
Fifteenth: Clarion, Forest, Jefferson, Venango.
Sixteenth: Armstrong, Beaver, Butler, Lawrence.
Seventeenth: Bedford, Indiana, Somerset, Westmoreland.
Eighteenth: Fayette, Greene, Washington.
Nineteenth: Allegheny.

13. In Section 2, Chapter III, we would omit "inquire into the merits of" so as to read, "The Censors of each district shall consider every case of appeal from the decision," etc., and in line nine omit, "before the next following annual session." Also in lines ten and eleven omit "in like manner" and to the section add: "Any appeal or judicial question arising in a district composed of less than three county societies shall be referred directly to the Judicial Council of the State Society." Also change Councilor Districts, Section 3, of same article, to read:

First: First Censorial District.
Second: Second and Third Censorial Districts.
Third: Fourth and Fifth Censorial Districts.
Fourth: Sixth and Seventh Censorial Districts.
Fifth: Eight and Ninth Censorial Districts.
Sixth: Tenth and Eleventh Censorial Districts.
Seventh: Twelfth and Thirteenth Censorial Districts.
Eighth: Fourteenth and Fifteenth Censorial Districts.
Ninth: Sixteenth and Seventeenth Censorial Districts.
Tenth: Eighteenth and Nineteenth Censorial Districts.

14. In Chapter VI, Section 1, line eight, after the word "Trustees" add " and Councilors." In Section 5, line two, omit "and" and in line three after "House of Delegates" insert "and of the Board of Trustees." After line four, insert: "He shall have no vote in the Board of Trustees, nor in the House of Delegates unless seated as a delegate." In Section 8, line three, instead of the word "secretary" substitute "clerk, who in the absence of the Secretary, shall keep a record of the proceedings." Begin the word "the" in the next line with a capital. In same section, second paragraph, line three, insert after "by" the following, "the President of the Society with the approval of" so as to read, "the vacancy shall be filled by the President of the Society with the approval of the Board of Trustees, until the next annual session of the House of Delegates." In Section 10, instead of "Board of Councilors" read, "Functions of Trustees as Councilors."

15. Omit Section 11, of Chapter VI, and number the following 11, 12 and 13.

16. In Chapter VII, Section 1, after the word "appointments" in line two, insert, "when not otherwise provided for." In Section 2, same chapter, after the word "Society" in line three, insert "the Editor," so as to make the Editor a member of the Committee on Scientific Work.

17. In Chapter X, Section 4, line three, change the second "of" to "in" to read, "the conduct of members in their relation to," etc.

No other business has been referred to the committee during the year.

Respectfully submitted,
Lewis H. Taylor, *Chairman,*
William L. Estes,
John Oenslager,
Alfred Stengel,
C. L. Stevens.

Report of the Committee on Health and Public Instruction

To the President and House of Delegates:

On account of the importance of a safe milk supply for the people of Pennsylvania we respectfully request the House of Delegates to pass the following resolutions:

Whereas, Tuberculosis, typhoid fever, diphtheria, scarlet fever, septic sore throat, and most forms of summer diarrhea are known to be transmissible by infected milk, and

Whereas, It has been proven that proper pasteurization of milk, consisting of heating to 145 degrees F. and maintaining at this temeprature for a period of not less than thirty minutes will destroy the organisms causing these diseases without change in the physical properties and nutritional value of the milk, be it

Resolved, That the House of Delegates of the Medical Society of the State of Pennsylvania favor the pasteurization of all milk, except certified milk, in accordance with this standard.

Very respectfully,
Charles H. Miner, *Chairman.*

REPORT OF THE COMMISSION ON CANCER

(Subsidiary to the Committee on Health and Public Instruction.)

To the President and House of Delegates:

This commission is again compelled to report no work, on account of war conditions. The commission hopes, however, that it will be continued next year as it is now possible to take up the work again actively.

J. M. WAINWRIGHT, *Chairman,*
DONALD GUTHRIE,
JAMES I. JOHNSTON,
JOSHUA E. SWEET,
EDWARD A. WEISS.

REPORT OF THE COMMITTEE ON BENEVOLENCE

To the President and House of Delegates:

The Committee on Medical Benevolence makes the following report: It has expended during the year for the relief of physicians needing it the sum of $600. This sum has been given to three members of the Society, the same as last year. Two other cases, in which relief was requested, have been investigated.

The report of the treasurer of the committee is herewith appended.

Very respectfully,
WILLIAM T. SHARPLESS, *Chairman.*

RECEIPTS

Balance in bank Sept. 1, 1918	$ 62.87
Cash received from Treasurer Wagoner, Sept. 17, 1918	373.53
Cash received from Treasurer Lowman, May 22, 1919	363.33
Total	$799.73

DISBURSEMENTS

Oct. 22, 1918	$ 50.00
Oct. 22, 1918	50.00
Oct. 22, 1918	50.00
Jan. 25, 1919	50.00
Jan. 25, 1919	50.00
Jan. 25, 1919	50.00
April 16, 1919	50.00
April 16, 1919	50.00
April 16, 1919	50.00
June 28, 1919	50.00
June 28, 1919	50.00
June 28, 1919	50.00
Total	$600.00
Balance in Bank Sept. 1, 1919	$199.73

Respectfully submitted.
EDWARD B. HECKEL, *Treasurer.*

REPORT OF THE COMMITTEE ON ARCHIVES

To the President and House of Delegates:

The Committee on Archives has expended no money during the year 1919.

Respectfully,
ALBERT M. EATON, *Chairman.*

REPORT OF THE WAR COMMITTEE

To the President and House of Delegates:

The War Committee begs to report that shortly after the 1918 session of the State Society, the armistice was signed, at which time the activities of the War Committee were more or less abruptly closed. The committee's correspondence was all handled by the office force of the State Committee on Council of National Defense, which rendered practically nil the expense to the State Society. To have continued the activities of this committee such as would naturally have fallen to its jurisdiction would have been impossible, owing to the cost incident thereto, and it was deemed expedient to discontinue the same. Your chairman begs to take this opportunity to express grateful appreciation to the various county chairmen and the personnel of the county committees who cooperated so willingly with the efforts put forth by the War Committee.

Respectfully submitted.
FRANK C. HAMMOND, *Chairman,*
FREDERICK L. VAN SICKLE,
WALTER F. DONALDSON.

REPORT OF THE COMMITTEE ON PROMOTION OF EFFICIENT LAWS ON INSANITY

(Subsidiary to the Committee on Public Policy and Legislation.)

To the President and House of Delegates:

During the legislative session of 1919 all bills introduced either in the House or Senate have been carefully studied to judge their effect on the care of the insane. Such bills as attracted attention were discussed with the Committee on Lunacy, members of the House and Senate and those interested or affected by these proposed changes.

The Committee has endeavored to lend its influence to such measures as were supported by the Committee on Lunacy and to actively oppose such bills as seemed to injuriously affect the interests of the state hospitals for the insane, and such measures were presented during the year and fortunately, we believe, were not passed. The Committee has endeavored to keep all persons interested in the care and welfare of the insane informed as to the character of the bills and has secured from such persons effective cooperation in its work. The Committee has also collaborated with Dr. Van Sickle, who was present in Harrisburg during the entire session and from whom we secured ready cooperation and effective aid.

The Committee desires to take this opportunity of expressing the hope that Dr. Van Sickle may be retained in this capacity as a representative of the State Medical Society in years to come.

Respectfully submitted.
H. W. MITCHELL, M.D., *Chairman,*
OWEN COPP, M.D.,
THEODORE DILLER, M.D.

FINAL REPORT OF THE MEDICAL LEGISLATIVE CONFERENCE

The following composite survey of bills introduced in the senate and house of representatives of the state of Pennsylvania, during the 1919 session, relating to medical affairs, are analyzed in the following report. The purpose of the Medical Legislative Conference is to protect, in so far as we could influence them, the interests of the medical profession and the public of the state, and the conference this year decided to request its chairman to attend the sessions of the house and senate, and therein voice the sentiment and opinion of organized medicine, relative to any measures that might be introduced. The chairman, accepting this duty, has been present at the sessions and has used whatever influence obtainable, to cause the passage of measures beneficial to the people of the state as well as oppose baneful measures. In the beginning of our legislative campaign we first secured the hearty cooperation and support of the commissioner of the State Department of Health and his assistants, and from them received the most valuable aid in accomplishing the purposes which we set out to do. We were also able to render to the members of the medical profession, who were also members of the state senate and house of representatives, forceful arguments for or against the passage of legislation in which we were interested and to a man they gave us their unqualified support. From a review of the experience of the Conference, through its representative, several important matters of legislation appeared prominently.

1. The effort of the so-called drugless therapeutists to enact legislative measures authorizing them to practice medicine by the laws, with the same authority as is now vested in the medical practitioner, under the Medical Practice Act, without acquiring the medical education necessary to qualify them to do so. We are pleased to say that by the efforts of the Conference, with the assistance of the active cooperation of the officers and members of the medical societies of the state, these measures so introduced were defeated on the floor of the house and in the house and senate Committees on Public Health and Sanitation. It must be remembered, however, that this will not close the chapter for future efforts on the part of those who seek to practice the healing art in the state of Pennsylvania. Greater effort in the future than that which has been manifested in the past will be necessary in order that the practice of medicine for the interest and welfare of the people of this state may be protected.

2. The ever active efforts on the part of many misguided people of this state to introduce measures not in accord with results achieved by medicine in the past history of this country and of the world, by the introduction of measures, which would retard the efforts of the medical practitioners to protect the public health by the restriction and prevention of communicable diseases, were deeply as prominent at this session as they have ever been in the past. Three measures were introduced to prevent physicians from vaccinating the people of the state, notwithstanding the frequent appearance of smallpox and the dangers of the spread of that loathsome disease. It is well to point out that an organized effort must continue to be made to prevent interference in the therapeutic application of vaccination, by these misguided people, and more active steps should be taken by organized medicine to educate the layman, and especially to bring to the notice of the probable members of the session of the legislature of 1921, the careful analysis of measures which might be presented, having a bearing on the subject.

3. A miscellaneous group of legislation was introduced, relating to vivisection, the work of the medical colleges, the anatomical board, health and sanitation, housing regulations, the registration of nurses, the licensing of medical men who have been in the service, the reporting of communicable diseases, and other bills of a kindred nature, all of which impressed the Conference with the necessity of being prepared to review intelligently the merits and demerits of each of these legislative problems. The medical profession must realize that the mere matter of medical practice does not rest alone on the priviliges conferred on the graduate of medicine and the protection of the Medical Practice Act. A broader and more comprehensive method of securing information and the application of a system by which we can be prepared to meet any legislative emergency, which may appear, should be given careful and mature consideration by organized medicine. Not only should this be our effort during the legislative years, but also during its interim.

4. Social insurance is a problem with which every practitioner of medicine in the state should and must become interested in. The report of the commission to make a sickness survey of the state of Pennsylvania submitted a report with their findings, but did not recommend, for this session, the enactment of an insurance measure. The governor of Pennsylvania was authorized by a joint resolution to appoint a commission to continue this study and submit its report to the session of 1921. No one at the present time is able to anticipate the nature of the report which may be submitted, nor the sentiment of the people of the state relative to a Health Insurance Bill, which may be a possibility during that session. It should be plain, however, that, with continued agitation of this problem in other states, public sentiment might be of such a mind that health insurance will be presented to the profession for its serious and active consideration. The provisions of the Workmen's Compensation Act of 1915 are familiar to every member of the medical profession. The Medical Legislative Conference has devoted much time and effort to influence amendments to this Act, whereby the financial return for the treatment of industrial accidents should be adequate. We are pleased to report that these efforts have been successful in the introduction in Section 306, Clause (e), of this Act, of such changes as will give the industrial surgeon the privilege of treating the accident case for thirty days, the maximum limit of payment to be $100 and the elimination of the word "major." Hospital care and charges are separated from the medical and surgical provisions and these charges are also limited to $100 by a rule of the board. The provisions of this Act become operative Jan. 1, 1920. It can be seen therefore from the foregoing that a great improvement has been accomplished in this section of the Act and many of the misunderstandings of the past eliminated.

In conclusion we can say that taken as a whole there has been no legislation enacted in the legislative session of 1919 which can be construed in any way as being detrimental to the interests of the medical fraternity, while on the other hand, we feel that we have accomplished much that will prove beneficial to us in the practice of our profession.

MEDICAL LEGISLATIVE CONFERENCE

A review of bills introduced in the house of representatives and senate of the state of Pennsylvania, session of 1919, made by the chairman of the Medical Legislative Conference, is submitted for information.

Your chairman, having assumed the duty assigned him, of attending the sessions of the house and senate during the session of 1919, herewith submits the list of bills which have come before us, either for favorable action and assistance in passage or to use influence to cause the same to be kept in committee or defeated on the floor of the house or senate:

HOUSE BILLS

House Bill No. 120.—This act was to amend Section 12 of "An act to provide for the more effectual protection of the public health in the several municipalities of this commonwealth."

As this was not a good amendment and not supported by the Department of Health, it was reported with a negative recommendation by the Committee on Public Health and Sanitation.

House Bill No. 215.—"An act to provide a just and equitable method of distributing money appropriated for the relief of the poor requiring medical and surgical treatment in hospitals and sanatoria in this commonwealth not under the absolute control of the state and unable to pay for the same."

The provisions of this bill were not satisfactory, would produce no good in application and the bill was therefore reported with a negative recommendation by the Committee on Public Health and Sanitation.

House Bill No. 260.—This bill was introduced to continue the commission on health insurance, as requested by the report of the commission appointed in 1917.

The bill passed finally in the house and passed third reading and final passage in the senate, June 17, 1919, and has been signed by the governor.

The passage of this Act and Resolution No. 9 of the house, which was approved by the governor, March 19, 1919, assures the people of the state and the medical profession that a commission will be appointed and continue the sickness survey until the session of 1921 when, if their findings prove to them that health insurance as a compulsory measure in the state of Pennsylvania is necessary, a bill for that purpose will be introduced.

House Bill No. 375.—"An act providing for and regulating the sterilization of certain persons and providing for the payment by the several counties of the expenses in connection therewith."

Our efforts were made to keep this bill in committee, as we do not believe that the state of Pennsylvania is prepared nor the medical profession willing to go on record as favoring this drastic measure.

It was reported with a negative recommendation by the Committee on Public Health and Sanitation.

House Bill No. 376.—"An act forbidding the advertising, publishing, selling, etc., of information tending to interfere with or diminish the number of births of human beings in the commonwealth of Pennsylvania."

This bill passed the house and was on second reading in the senate when, from information obtained from good legal authority, we opposed the final passage of this measure, which might be used to work severe injury to the medical profession.

It was re-committed to the Committee on Public Health and Sanitation of the senate, May 7, 1919, and was never reported out.

House Bill No. 415.—This was an Act to regulate the practice of optometry and was one of three acts which the committee considered best to oppose and it was re-committed on second reading to the Committee on Public Health and Sanitation and was not reported out.

House Bill No. 460.—This is the second bill introduced regulating the practice of optometry and was also referred to the Committee on Public Health and Sanitation and was not reported out.

House Bill No. 461.—This was the third optometry bill and it too was referred to the Committee on Public Health and Sanitation and was not reported out.

House Bill No. 497.—"An act prohibiting advertisements relating to the treatment of diseases of the generative organs and prescribing penalties."

This bill passed the house early in the session and continued in the senate until May 7, 1919, when it was re-committed to the Committee of the Senate on Public Health and Sanitation.

Believing that this bill was a good one, we made effort to have the bill reported out, but learned of strong opposition, which eventually we were able to have removed and the bill was reported out and passed finally June 25, 1919, and has been signed by the governor.

House Bill No. 510.—This is known as the "Goehring Osteopathic Board Bill," which would have given the osteopathic practitioner the same privileges which are extended to practitioners of medicine under the license of the Bureau of Medical Education and Licensure.

This was the most strenuously fought bill on the part of the chairman, of the session. Communications were sent to every county society in Pennsylvania urging influence with senators and representatives to defeat this measure.

It was postponed until April 9, 1919, and came up on April 29, 1919, and defeated in final passage by vote of 126 against and 53 for its passage.

Reference will be made to the companion bill in senate report.

House Bill No. 576.—"An act to prohibit medical treatment or surgical operations upon any person without the consent of such persons or their parents or guardians and prescribing penalties for violations."

This was the first of three antivaccination bills which had a hearing before the Committee on Public Health and Sanitation.

This bill was re-committed to the committee on April 28, 1919, and was not reported out.

The same disposition was made of the other two antivaccination bills.

House Bill No. 635.—An act relating to milk, making it possible to change the percentage of butter fats and milk solids and providing a standardization of milk, etc.

Your chairman received communications from Philadelphia opposing this measure, as it would open the door for dealers to furnish milk with reduced butter fat and solids and would be detrimental to the interests of the babies of the state.

It was therefore opposed by your chairman and re-committed to the Committee on Agriculture, March 11, 1919, and was not reported out.

House Bill No. 661.—This was a bill introduced by the Undertakers Association to increase the amount given for the burial of unclaimed bodies.

It was opposed by the Anatomical Board on the ground that it would limit the possibility of obtaining material for dissection, and an amendment was introduced into the Bill which we believe will allow the Anatomical Board to obtain sufficient material for anatomical purposes.

The bill passed finally and was approved by the governor.

House Bill No. 673.—This was the second sterilization bill, to sterilize inmates in institutions, and was sufficiently urged by its friends to bring it before the house, but it was defeated on final passage, May 12, 1919.

House Bill No. 913.—This was an Act to amend the charters of institutions of learning, etc., relieving institutions teaching the practice of chiropractic only from the provisions of the sections of the Act.

This bill would have allowed the drugless therapeutists to come under charter regulations and make their own provisions.

It was reported with a negative recommendation by the Committee on Judiciary Special.

House Bill No. 972.—This was one of the three prohibition measures and would have affected particularly the physicians, dentists and druggists. Several amendments were put in the Act prior to its appearing for third reading, but it was defeated on final passage, June 10.

House Bill No. 1031.—The Steedle Bill.—"An act to amend Clause (c) of Section 306 of an act approved June 2, 1915"—the Workmen's Compensation Act.

This bill was introduced as a checkmate in case the workmen's compensation measures as proposed by Mr. Mackey would not be considered, and would have been urged for final passage had not the governor, through the Attorney General's Office, caused the Workmen's Compensation Act to be re-written with favorable amendments for the physicians and hospitals.

This bill was never called from committee, due to the fact that the measure presented by the Attorney General's Office passed the house and senate.

House Bill No. 1051.—This was the second antivaccination bill and was reported with a negative recommendation.

House Bill No. 1052.—"An act to provide for the more effectual protection of the public health in the several municipalities of this commonwealth in so far as it affects counties having a population of less than 70,000.

This also was a measure not endorsed by the Department of Public Health and was never reported out by the Committee on Public Health and Sanitation.

House Bill No. 1130.—"An act to prohibit experiments on living dogs and providing a penalty for the violation thereof."

This was the antivivisection measure and was re-committed to the Committee on Public Health and Sanitation on May 2, 1919, with the assurance that it would not be reported out.

A final effort was made on the part of friends of this bill on June 18 by obtaining the signatures of the members of the committee and it was presented for third reading June 19 and defeated on final passage.

House Bill No. 1154.—"An act to provide for more effectual protection of public health in the several municipalities of this commonwealth."

This was not favored by the Department of Health and was reported with a negative recommendation by the Committee on Public Health and Sanitation.

House Bill No. 1484.—This was an act to amend Clause (e) of Section 306 of the Workmen's Compensation Act.

This act was not pushed on account of the Attorney General's bills and was not reported out of the Committee on Labor and Industry.

House Bill No. 1550.—"An act to protect the public health and welfare by the control of venereal diseases."

This was an effort to dictate the policy of the Department of Health and was not favored, either by the department or your chairman, and was not reported out of the Committee on Public Health and Sanitation.

House Bill No. 1580.—This bill was introduced by Representative Sprowls, a medical member of the house, and would have paid $1 each for reporting births and deaths.

This bill arrived at the time of final passage, but was not favored by the members of the house, who were against the medical profession and would not have it passed and it was dropped from the calendar June 17, 1919.

House Bill No. 1642.—This was a measure introduced by the Department of Health in regard to requiring reporting of communicable diseases and giving the department increased powers.

Requests from members of the profession were made in writing to your chairman for the introduction of a bill to pay for reporting births, deaths and communicable diseases and, inasmuch as the Department of Health had no measure to propose, an amendment was placed in this bill to pay a fee of not less than 25 cents for information and report of each case of contagious disease. This amendment was not opposed by the department, but was vigorously opposed by members of the house, with the result that the bill was defeated on final passage May 27, 1919.

A vote to reconsider the bill on May 28 carried. The bill was re-reported as amended by striking out this clause and passing finally in the house, June 10, and in the senate, June 24, and has been signed by the governor.

The chairman wishes to refer to this bill particularly, as an answer to the many requests by members of the profession that the Department of Health, or the municipality, compensate the physicians for reports of births, deaths and communicable diseases. For the first time in many years an opportunity was presented to place this request before the assembly of the state of Pennsylvania, and we now have an answer by the representatives in a defeat of these provisions; hence the profession must seek other means of compensation for such reports.

SENATE BILLS

Senate Bill No. 217.—An act to regulate the practice of drugless therapeutics and creating a board of licensure.

This bill was reported to the Committee on Public Health and Sanitation of the senate and action on the same was indefinitely postponed.

Senate Bill No. 248.—"An act to amend sections of the Act of the State Board of Examiners for the registration of nurses."

This bill proposed to change the personnel of the board by dropping the physicians of the board and creating a board composed entirely of nurses.

Efforts were made to amend this act by providing three physicians and two nurses as in the original act, but a compromise was effected with the Commissioner of Health and others and on final passage the act provided for two physicians and three nurses as members of the board.

This act was not favored in its amendments by your chairman, but after the compromise was effected no further influence was used for the bill.

Senate Bill No. 446.—An act to amend the State Board of Osteopathic Examiners Act, and was considered a companion bill to House Bill No. 510, which was defeated on the floor of the house.

Inasmuch as the house bill, introduced by Representative Goehring, was defeated, the Committee on Public Health and Sanitation indefinitely postponed this measure.

This action was not on the part of the committee, but by virtue of opinions expressed at the hearing before this committee, which persuaded them that this was not a good act to pass.

Senate Bill No. 613.—"An act to provide for the erection, construction, equipment, maintenance and management of a state pathological roentgen-ray and chemical laboratory and making an appropriation therefor."

This bill was referred to the Committee on Appropriations and indefinitely postponed.

Senate Bill No. 614.—Known as the "Housing Bill," to increase the power of the Department of Health as to the sanitation of dwellings and was favored by your chairman, but opposition to this measure was so strong that it was re-committed to the Committee on Public Health and Sanitation, and action indefinitely postponed.

Senate Bill No. 725.—An act providing for the granting of certificates of licensure to practice medicine to persons who served in army and navy.

This act was amended with the approval of the Bureau of Medical Education and Licensure, and was passed and signed by the governor.

Senate Bill No. 732.—This was known as the "Leslie Bill," introduced by the Department of Health, to regulate the possession, control, dealing in, etc., of certain drugs, and was of such a sweeping nature that the druggists and the medical profession entered strong protest at the hearing against its passage and the bill was withdrawn by the Commissioner of Health.

Senate Bill No. 868.—An act to amend an act providing for the admission of insane patients and fixing compensation for examination.

This bill provided a fee of $10 for the attorney and $5 for the physician.

We opposed this unequal compensation in committee and the bill was re-committed to the Committee on Public Health and Sanitation on May 13, 1919, and action indefinitely postponed.

Senate Bill No. 975.—This was House Bill No. 1230, introduced by the Department of Health and increased the powers of the department to regulate vaccination, correcting omissions in the Act of 1895.

This bill passed the house and senate and was signed by the governor, which now gives the Department of Health absolute control in regard to vaccination regulations.

Senate Bill No. 993.—Amending Sections 306, 307, 308 and 309 of Article 3 and Articles 4 and 5 of Workmen's Compensation Act.

Section 306, Clause (e), was amended by striking out the words "major operation," extending the time of treatment of the employee from fourteen to thirty days and increasing the compensation from $25 and $75 to $100; separating the compensation of the physician from hospital charges and furnishing hospital care for thirty days, and the cost of hospital treatment and supplies to be at the prevailing charges, the board fixing the limit of $100 for said services.

This amendment to the Workmen's Compensation Act was the most important work accomplished by your chairman during the entire session and, if no compensation to him was given, he feels well paid in that the medical profession of the state of Pennsylvania has for the first time in the five years since the beginning of the introduction of this measure made an impression on the law makers of this state, with the above result. This in itself is sufficient argument to encourage the Medical Legislative Conference to request of the medical profession a continuance of this movement and arranging plans whereby legislative measures may not only be obstructive, but that constructive legislation may be introduced when the proper time arrives.

Frederick L. Van Sickle,
Chairman, Medical Legislative Conference.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

Since publication of New and Nonofficial Remedies, 1919, and in addition to those previously reported, the following articles have been accepted by the Councilon Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Barbital Sodium-Abbott.—A brand of barbital sodium which complies with the New and Nonofficial Remedies standards. Barbital sodium is the soluble sodium salt of barbital (veronal). Barbital sodium was first introduced as veronal sodium and medinal. For a discussion of the actions, uses and dosage of barbital sodium see New and Nonofficial Remedies, 1919, p. 83. The Abbott Laboratories, Chicago.

Ovarian Substance-Hollister-Wilson.—The entire fresh ovary (including the corpora lutea) of the hog, cleaned, freed from fat, dried and powdered. It contains no diluent or preservative. For a discussion of the actions and uses of ovary preparations, see New and Nonofficial Remedies, 1919, p. 202. The dose is from 0.06 to 0.2 Gm. (1 to 3 grains). The Hollister-Wilson Laboratories, Chicago.

Desiccated Corpus Luteum-Hollister-Wilson.—The fresh substance from the corpora lutea of the hog, dried, freed from fat and powdered. It contains no diluent or preservative. For a discussion of ovary preparations, see New and Nonofficial Remedies, 1919, p. 202. The dose is from 0.03 to 0.12 Gm. (½ to 2 grains). Hollister-Wilson Laboratories, Chicago.

Sodium Dioxide, Dental-R. and H.—A brand of sodium peroxide complying with the New and Nonofficial Remedies standards, but containing at least 90 per cent. of sodium peroxide, and iron not to exceed 0.006 per cent. For a discussion of the actions and uses of sodium peroxide, see New and Nonofficial Remedies, 1919, p. 216. Roessler and Hasslacher Chemical Co., New York (Jour. A. M. A., Aug. 23 1919, p. 607).

B. Coli Bacterin (Special Bacterial Vaccine No. 12).—A colon bacillus vaccine (see New and Nonofficial Remedies, 1919, p. 283), marketed in 10-Cc. vials, each cubic centimeter containing 5,000 million killed Bacillus coli. Fred I. Lackenbach, San Francisco.

Gonococcus Bacterin (Special Bacterial Vaccine No. 9).—A gonococcus vaccine (see New and Nonofficial Remedies, 1919, p. 285), marketed in 10-Cc. vials, each cubic centimeter containing 1,000 million killed Gonococcus. Fred I. Lackenbach, San Francisco.

Staph-Acne Bacterin (Special Bacterial Vaccine No. 6).—A mixed bacterial vaccine (see New and Nonofficial Remedies, 1919, p. 296), marketed in 10-Cc. vials, each cubic centimeter containing 500 million killed Staphylococcus albus, 500 million killed Staphylococcus aureus, and 50 million killed Bacillus acne. Fred I. Lackenbach, San Francisco.

Whooping Cough Bacterin (Special Bacterial Vaccine No. 14).—A pertussis bacillus vaccine (see New and Nonofficial Remedies, 1919, p. 287), marketed in 10-Cc. vials, each cubic centimeter containing 2,000 million killed B. Pertussis. Fred I. Lackenbach, San Francisco.

Staphylococcus Bacterin (Special Bacterial Vaccine No. 1).—A staphylococcus vaccine (see New and Nonofficial Remedies, 1919, p. 289), marketed in 10-Cc. vials, each cubic centimeter containing 2,000 million killed Staphylococcus albus, 2,000 million killed Staphylococcus aureus, and 1,000 million killed Staphylococcus citreus. Fred I. Lackenbach, San Fancisco.

Streptococcus Bacterin (Special Bacterial Vaccine No. 10).—A streptococcus vaccine (see New and Nonofficial Remedies, 1919, p. 291), marketed in 10-Cc. vials, each cubic centimeter containing 1,000 million killed Streptococcus. Fred I. Lackenbach, San Francisco.

Typhoid Bacterin (Special Bacterial Vaccine No. 17).—A typhoid vaccine (see New and Nonofficial Remedies, 1919, p. 292), marketed in 10-Cc. vials, each cubic centimeter containing 1,000 million killed B. Typhosus. Fred I. Lackenbach, San Francisco.

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